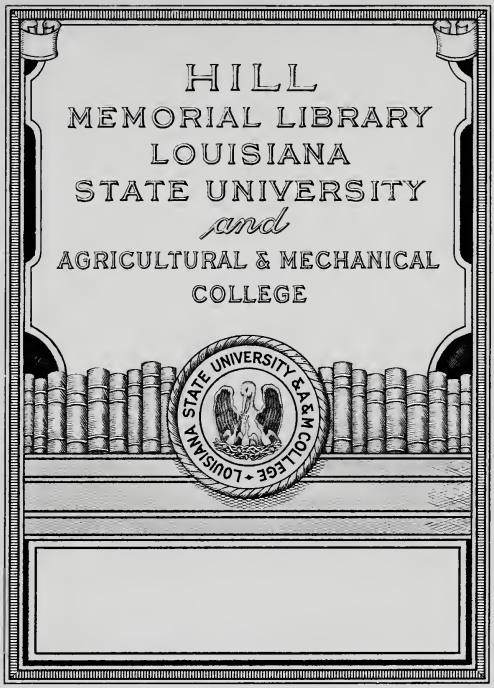
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THE SUGAR BULLETIN

Vol. 32—No. 1 OCTOBER 1, 1953

Official Bulletin of the American Sugar Cane League of the U. S. A.

LOUISIANA STATE UNIVERSITY
OCT 6 '53

J. P. Duhe, Seventeenth President of the American Sugar Cane League

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

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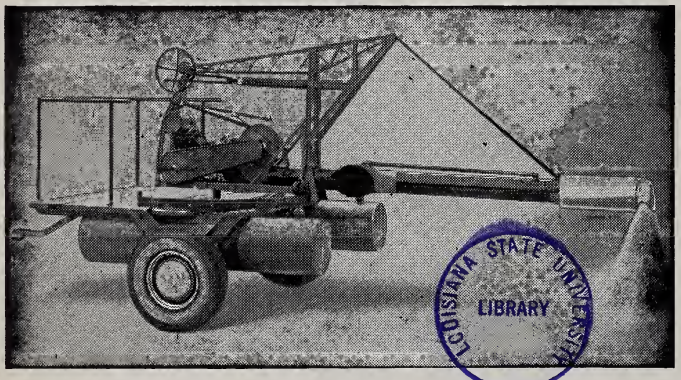

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THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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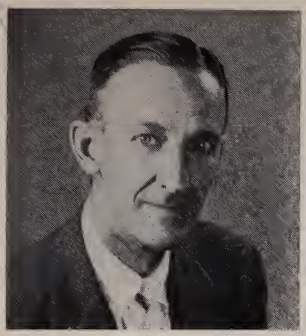

UP FRONT WITH THE LEAGUE

by A. W. DYKERS

With this issue I join the rogue's gallery.

The Annual Meeting

The Annual Meeting of your League was held in the Jackson Room of the St. Charles Hotel in New Orleans on Thursday, September 24th, as per schedule. For those who were too busy to make the trip, here is what happened.

Mr. L. A. Borne, retiring President, who has been the leader of your organization for the past two years, read the report that you will find in this issue beginning on page 7.

Then the elections were held and, when all the votes were in, the following people had been chosen to guide the destinies of your organization for the next twelve months. President: J. P. Duhe of Jeanerette; 1st Vice President: F. A. Graugnard, Jr., of St. James; 2nd Vice President: Ed. Schexnayder of Bayou Goula; 3rd Vice President: Bronier Thibaut of Napoleonville; 4th Vice President: Josiah Ferris of Washington, D. C.; 5th Vice President: Gilbert J. Durbin of New Orleans; Vice President Emeritus: Marcel J. Voorhies of Baton Rouge; Vice President Emeritus: Clarence J. Bourg of Chevy Chase, Maryland; and Treasurer: T. M. Barker of Lockport, La.

The newly elected Executive Committee is composed of P. L. Billeaud, Broussard, La., L. A. Borne, Raceland, La., H. K. Bubenzer, Bunkie, La., W. S. Chadwick of Bayou Goula, La., F. Evans Farwell, New Orleans, La., A. H. Feske, Jr., New Iberia, La., Murphy J. Foster, Franklin, La., Andrew P. Gay, Plaquemine, La., W. F. Giles, Jeanerette, La., Walter Godchaux, Jr., New Orleans, La., Warren Harang, Thibodaux, La., Wallace C. Kemper, New Orleans, La., Whittaker Lonsdale, Franklin, La., Earl G. Luke, Franklin, La., E. W. McNeil, Cinclare, La., J. J. Munson, Houma, La., Stephen C. Munson, Jeanerette, La., David W. Pipes, Jr., Houma, La., James H. Thibaut, Donaldsonville, La., and Louis Wilbert, Plaquemine, La.

Mr. Duhe's first official act was to present Mr. Borne the gavel he has used during the past two years. This symbol of law and order was all polished up and adorned with a silver band on which was engraved, "Presented to President L. A. Borne by the Executive Committee of the American Sugar Cane League of the U. S. A., Inc., September 24, 1953."

The new Executive Committee went to work immediately following the Annual Meeting and was very busy for a couple of hours. They elected Gilbert J. Durbin to again be the General Manager of the League and also re-elected J. J. Shaffer, Jr., as Secretary. Fifteen subjects were discussed all of which are of vital concern to the welfare of the Louisiana sugar industry. We want to tell you about one that will save you money right now if you truck sugarcane.

Truck License Plates

Mr. Paul Borron, Jr., your

(Continued on page 13)

IN THE FIELD WITH LLOYD LAUDEN

More On The Stunting Disease

Because this disease is considered to be of major importance to the Louisiana sugar industry, we are taking the liberty of reprinting excerpts from an article in the July, 1953 issue of "THE CANE GROWERS' QUARTERLY BULLETIN" entitled Ratoon Stunting Disease Problem, by Norman J. King, Director of Sugar Experiment Station, Brisbane, Australia.

The Ratoon Stunting Disease Problem

In the past when we have spoken of the incidence of diseases and the losses which they might bring in their wake we were able to point to certain outward symptoms whereby you could readily detect the affected stools. We appreciate that this new disease is in a different class in as much as there are not outward symptoms but merely a loss in yielding power which may not be noticed except in very susceptible varieties. When Q.28 was first affected in Mackay it was shown that 10 to 15 tons per acre were lost in ratoon crops; this serious loss of yield was sufficient to attract attention to the variety, and it was obvious to any observer that some important factor was militating against crop yields. This was proved to be a disease, transmissible by knives and cutter planters. Only last year was it established that certain internal markings in the stalk denoted the presence of the disease.

As soon as these markings were established as denoting the presence of ratoon stunting disease a Statewide survey showed that it was present in every mill area. In no other variety was the stunting of ratoons so marked as in Q.28 and it is easy to appreciate that the loss in crop had been overlooked by technical men and farmers alike. In past years if a variety fell off in the ratoon crop it was explained merely as the natural performance of that variety to yield less in ratoon crops than in plant cane. A drop from 30 tons plant to 20 tons ratoon was considered the normal and natural thing. The widespread nature of ratoon stunting disease — and the fact that we do not know how long it has existed in our industry — throws a different light on the yield capacity of our varieties. The question naturally arises "How many tons per acre are we losing as a result of this previously unsuspected disease?" That query cannot yet be answered.

If we accept that this disease has been present in our fields for a long time some interesting speculations can be made. Growers of long standing in the industry can look back over a procession of cane varieties which in turn attained favour, assumed some prominence and then declined in production. This changing picture was not always the result of a cane being superseded by a superior variety. It was the result—and this was stressed by farmers on countless occasions—of deterioration in yield or so-called

(Continued on page 14)

IN WASHINGTON WITH JOE FERRIS

Hind Sight

Secretary Benson has kept his promise to review sugar policies. First evidence of it is the recent action by the Sugar Branch to relieve some of the "Hardships" caused by marketing allotments—anathema of sugar producers.

Following is the text of the "memorandum" which will somewhat alleviate the suffering of producers caught with a large inventory on January 1, 1954:

UNITED STATES DEPARTMENT OF AGRICULTURE
MEMORANDUM TO THE SECRETARY
FROM THE ADMINISTRATOR
SUBJECT: CHARGES AGAINST ALLOTMENTS OF SUGAR QUOTAS, MAINLAND CANE SUGAR AREA, 1953.

On June 23, 1953 a hearing was held in New Orleans, Louisiana for the purpose of obtaining information on the basis of which the 1953 mainland sugar quota would be allotted to mainland processors. Several of the processors at the hearing questioned the correctness of marketing data submitted by the government witness and submitted, under oath other data which they alleged represented the true 1952 marketings of their firms. The year 1952 is one of the years used in calculating the amount of the 1953 allotment period. More important, however, inventories held on January 1, 1953 would have been sold in 1953 and, therefore, would be charged against the 1953 marketing allotments of the respective companies. This would reduce by such quantity the 1953 marketings by such processors of sugar produced from the crop to be harvested in the fall of 1953.

The regulations of the Secretary under which the sugar marketing allotments were made require that the decision of the Secretary be based solely on the record of the hearing. In studying the record and preparing the proposed allotment order for your signature, it was determined that, on the basis of evidence in the record, the quantities of sugar in controversy did not constitute 1952 marketings within the meaning of the definition of marketing as set forth in Sugar Regulation 815. Consequently, the allotments were calculated on the basis that such quantities of sugar were marketed in 1953. We believe that this determination was justified on the basis of the record developed at the hearing.

Although we are satisfied that the record supports the decision made, we do believe that if the quantity of sugar in question were counted as 1952 marketings, there would be substantial compliance with the definition of marketings as set forth in SR 815. Furthermore, it is believed an audit of the industry might substantiate the claims of these companies and also reveal discrepancies in our records of 1952 marketings for other companies.

In view of the foregoing, it is recommended that the quantities of

(Continued on page 10)

REPORT OF PRESIDENT BORNE TO THE THIRTY-FIRST ANNUAL MEETING OF THE AMERICAN SUGAR CANE LEAGUE

Members of the American Sugar Cane League and our distinguished guests.

Today marks the completion of my second year as the President of the American Sugar Cane League and this brings to a close the two year period which tradition has established as the length of time that any one man shall be privileged to hold this high office.

At the outset I want to say that it has been a great honor to head this fine organization and that I wish to publicly express my appreciation to the entire membership of the American Sugar Cane League for the wholehearted cooperation that has been shown me during my entire time in office. The two years ending today will always be remembered by me as two of the finest years of my life.

The twelve months that have gone by so rapidly since this time last year have been very busy ones for the American Sugar Cane League. Time will not permit a detailed account of the League's activities during this period but I will try to touch on some of the outstanding developments.

The biggest news of the year was, of course, the change in National Administrations. After twenty years of trying, the Republicans finally made it and most of us expected a decided change for the better in the administration of the Sugar Act. I am sorry to have to report that this expected improvement has not materialized and the price of sugar today is 1.3 points less than it was at this time last year.

To the great surprise of all of us a free or freer trade movement has sprung up this year that could easily ruin the Louisiana sugar industry, and your League has been kept busy fighting this new development.

This year, for the first time since 1941, the Sugar Branch has imposed proportionate acreage shares and mill marketing allotments on the Louisiana sugar industry and the job of preparing suggested formulas for the hearings that preceeded the fixing of acreage and marketing quotas consumed many hours and days of hard work by the members of the committees and the League personnel working on these problems. We believe that the efforts of the League have been successful in keeping acreage restrictions to a reasonable figure.

Another "first" for this year was the meeting we had with the Cubans in an effort to bring about a better understanding of our mutual problems. Mr. Graugnard, Mr. Ferris, Mr. Durbin, and I visited Cuba in April and we hope to have a delegation from Cuba here to visit us in the near future.

In my report to you last year I outlined the work and accomplishments of the League, through its Freight Committee and our attorney Mr. Paul Borron, Jr., in effecting substantial savings in railroad freight rates on the intrastate movement of sugarcane and sugar. At the time of my report there was pending before the Louisiana Public Service Commission a proceeding brought by the railroads seeking approval of an increase in intrastate rail rates of 15% on sugarcane and 9% on molasses. In this proceeding the Commission issued an order authorizing increases on other commodities, but denying the increase on those commodities in which we are interested. There is now pending before the Interstate Commerce Commission a proceeding in which the railroads are requesting authority to increase intrastate rates on sugarcane and sugar more than 24% and on molasses 9%. The League, through its attorney and freight rate consultants, is actively oppos-

(Continued on page 12)

MINIMUM 1953-54 HARVESTING WAGES AND 1954 CULTIVATION WAGES

TITLE 7—AGRICULTURE
Chapter VIII—Production and Marketing Administration (Sugar Branch), Department of Agriculture
Subchapter H—Determination of Wage Rates
(Sugar Determination 864.1)
PART 864—Wages; Sugarcane; Louisiana

HARVESTING—1953 CROP; PRODUCTION AND CULTIVATION CALENDAR YEAR 1954

Part 864 is revised to read as set forth herein. This revision includes the subject matter formerly carried in Parts 864 and 865.

Pursuant to the provisions of section 301 (c) (1) of the Sugar Act of 1948, as amended, (herein referred to as "act"), after investigation, and consideration of the evidence obtained at the public hearing held in Thibodaux, Louisiana, on July 16, 1953, the following determination is hereby issued:

§864.1 *Fair and reasonable wage rates for persons employed in Louisiana in the harvesting of the 1953 crop of sugarcane and production and cultivation of sugarcane during the calendar year 1954.* (a) *Requirements.* The requirements of section 301 (c) (1) of the act shall be deemed to have been met with respect to the harvesting of the 1953 crop of sugar and the production and cultivation of sugarcane during the calendar year 1954, if the producer complies with the following:

(1) *Wage Rates.* All persons employed on the farm shall have been paid in full for all such work and shall have been paid wages in cash therefor at rates as agreed upon between the producer and the laborer but, after the date of issuance of this determination with respect to harvesting of the 1953 crop, and after December 31, 1953 with respect to production and cultivation of sugarcane during the calendar year 1954, not less than the following:

(i) *Basic wage rates and adjustments for sugar price changes.* When the average price of raw sugar is within the base price range of $5.60 to $6.00, inclusive, per one hundred pounds for the four-week period immediately preceding the four-week period during which the work is performed, and for each full 10 cents that such price shall average more than $6.00 or less than $5.60 per one hundred pounds, the day and piecework wage rates in the accompanying table shall be applicable:

(ii) *Workers between 14 and 16 years of age when employed on a day basis.* For workers between 14 and 16 years of age, the wage rate per 8-hour day (maximum employment is 8 hours per day for such workers without deduction from Sugar Act payments to the producer) shall be not less than three-fourths of the applicable day wage rate for adults provided under subdivision (i) of this subparagraph.

(iii) *Hourly rates.* Where workers are employed on an hourly basis, the wage rate per hour shall be determined by dividing the applicable day wage rate in subdivision (i) of this subparagraph by 9 in the case of adult workers, and three-fourths of such rate by 8 in the case of workers between 14 and 16 years of age.

(iv) *Other piecework rates.* The piecework rate for any operation specified in subdivision (i) of this subparagraph, when performed on a unit basis other than a ton, or the piecework rate for any operation not specified shall be that as agreed upon between the producer and the worker: *Provided,* That for such agreed upon piecework rate the hourly rate of earnings of each

	Price Ranges: 4-week average price of 100 pounds of raw sugar						
At least	$5.201	$5.301	$5.401	$5.501	$6.100	$6.200	$6.300
But not more than	5.300	5.400	5.500	6.099	6.199	6.299	6.399
Class of worker or operation:	Adjusted Basic Rates			Basic Rates	Adjusted Basic Rates		
Harvest of 1953 Crop							
Wage rates per 9-hour day for adult workers:							
Cutters, toppers, strippers, scrappers	$3.865	$3.940	$4.015	$4.090	$4.190	$4.290	$4.390
Loaders, grabmen, spotters, ropemen	4.555	4.630	4.705	4.780	4.880	4.980	5.080
Cutters and loaders, pilers, hoist operators	4.075	4.150	4.225	4.300	4.400	4.500	4.600
Tractor drivers, truck drivers	4.655	4.730	4.805	4.880	4.980	5.080	5.180
Teamsters	4.445	4.520	4.595	4.670	4.770	4.870	4.970
Operators of mechanical loading or harvesting equipment	5.075	5.150	5.225	5.300	5.400	5.500	5.600
All other harvesting workers	3.345	3.420	3.495	3.570	3.670	3.770	3.870
Piecework rates per ton for all workers:							
Large barrel varieties:[2]							
Cutting top and bottom, and stripping	1.345	1.370	1.395	1.420	1.4575	1.4950	1.5325
Cutting top and bottom	.845	.860	.875	.890	.9125	.9350	.9575
Loading	.445	.450	.455	.460	.4675	.4750	.4825
Cutting top and bottom, stripping and loading	1.790	1.820	1.850	1.880	1.9250	1.9700	2.0150
Cutting top and bottom, and loading	1.290	1.310	1.330	1.350	1.3800	1.4100	1.4400
Small barrel varieties:[2]							
Cutting top and bottom, and stripping	1.640	1.670	1.700	1.730	1.7750	1.8200	1.8650
Cutting top and bottom	1.040	1.060	1.080	1.100	1.1300	1.1600	1.1900
Loading	.530	.540	.550	.560	.5750	.5900	.6050
Cutting top and bottom, stripping and loading	2.170	2.210	2.250	2.290	2.3500	2.4100	2.4700
Cutting top and bottom and loading	1.570	1.600	1.630	1.660	1.7050	1.7500	1.7950
Production and Cultivation–Calendar year 1954							
Wage rates per 9-hour day for adult workers:							
Tractor drivers	4.100	4.150	4.200	4.250	4.325	4.400	4.475
All other production and cultivation workers	3.260	3.310	3.360	3.410	3.485	3.560	3.635

[1] For each successive full 10-cent price change above $6.30 or below $5.30, the wage rates shall be increased or decreased correspondingly, by the same amounts as shown above for each full 10-cent price change.

[2] Large barrel varieties Co. 290, C. P. 29/103; C. P. 29/116; C. P. 32/243; C. P. 36/13; C. P. 36/105; C. P. 29/120; C. P. 43/47; C. P. 44/101; and C. P. 44/155. Small barrel varieties: All other.

worker, for the time involved, shall be not less than the applicable hourly rate specified in subdivision (iii) of this subparagraph.

(v) *Determination of average sugar prices.* The four-week average price of raw sugar shall be determined by taking the simple average of the daily "spot" quotations of 96° raw sugar of the Louisiana Sugar Exchange, Inc., adjusted to a one hundred pound basis; except that if the Director of the Sugar Branch determines that for any four-week period such average price does not reflect the true market value of raw sugar, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, the Director may designate the the average price to be effective under this determination. For the purpose of this determination, the average price of raw sugar prevailing during the period from August 21 through September 17, 1953, shall determine the wage rates from September 18 thru October 15, 1953, and thereafter the wage rates in successive four-week periods shall be determined by the average price of raw sugar prevailing in the immediately preceding four-week period.

(2 *Compensable working time.* For work performed under subparagraph (1) of this paragraph, compensable working time includes all time which the worker spends in the performance of his duties except time taken out for meals during the work day. Compensable working time commences at the time the worker is required to start work. If the worker is required by the producer to report

to a place other than the field, such an assembly point, stable, tractor shed, etc., time spent in transit to the field is compensable working time. Any time spent in performing work directly related to the principal work performed by the worker such as servicing equipment, is compensable working time. Time of the worker while being transported from a central recruiting point or labor camp to the farm is not compensable working time. Compensable working time ends upon completion of work in the field except for the operator of mechanical equipment, the driver of animals or any other class of worker who is required by the producer to return to a designated place on the farm. In such cases, time spent in transit to such point is compensable working time.

(3) *Equipment necessary to perform work assignment.* The producer shall furnish without cost to the worker any equipment required in the performance of any work assignment. However, a charge may be made for equipment furnished any worker for the cost of such equipment in the event of its loss or destruction through negligence of the worker. Equipment includes, but is not limited to, hand and mechanical tools and special wearing apparel, such as boots and raincoats, required to discharge the work assignment.

(4) *Perquisites.* In addition to the foregoing, the producer shall furnish to the laborer, without charge, the perquisites customarily furnished by him, such as a habitable house, medical attention, and similar items.

(b) *Subterfuge.* The producer shall not reduce the wage rates to laborers below those determined herein through any subterfuge or device whatsoever.

(c) *Claim for unpaid wages.* Any person who believes he has not been paid in accordance with this determination may file a wage claim with the local County Production and Marketing Administration Committee against the producer on whose farm the work was performed. Such claim must be filed within two years from the date the work with respect to which the claim is made was performed. Detailed instructions and wage claim forms are available at the office of the local County Committees of the Production and Marketing Administration. Upon receipt of a wage claim the County Committee shall thereupon notify the producer against whom the claim is made concerning the representation made by the laborer, and, after making such investigation as it deems necessary, notify the producer and laborer in writing of its recommendation for settlement of the claim. If either party is not satisfied with the recommended settlement, an appeal may be made to State Committee of the Production and Marketing Administration, 1517 Sixth Street, Alexandria, Louisiana, which shall likewise consider the facts and notify the producer and laborer in writing of its recommendation for settlement of the claim. If the recommendation of the State Committee is not acceptable, either party may file an appeal with the Director of the Sugar Branch, Production and Marketing Administration, U.S. Department of Agriculture, Washington 25, D. C. All such appeals shall be filed within fifteen days after receipt of the recommended settlement from the respective committee, otherwise such recommended settlement will be applied in making payments under the act. If a claim is appealed to the Director of the Sugar Branch, his decision shall be binding on all parties insofar as payments under the act are concerned.

IN WASHINGTON

(Continued from page 6)

sugar in question and other quantities which can be correspondingly substantiated be charged to the 1952 quota for the Mainland Cane Sugar

SUGAR MARKET STATISTICS THROUGH AUGUST 25, 1953

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.42	6.42	6.55
QUOTA RAWS DELIVERED NEW ORLEANS	6.41	6.40	6.53
WORLD SPOT RAWS (In Cuba)	3.25	3.50	4.00

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Nov.	1954 Jan.	March	May
Today	5.90	5.70**	5.53	5.59
1 Month Ago	5.88	5.78*	5.53	5.59
1 Year Ago	5.99	Not Quoted	5.40	5.44

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	298,547 bags	1,476,427 bags
Godchaux	219,853 bags	1,500,168 bags
Colonial	60,071 bags	1,197,949 bags
Henderson	52,000 bags	451,615 bags
Southdown	2,175 bags	250,295 bags
South Coast	86,059 bags	598,590 bags
Sterling	None	None
Supreme	90,583 bags	728,701 bags
Totals	809,288 bags	6,203,745 bags

Area and that an audit be made of the books of all allottees for the purpose of verifying the actual marketings of each company for that year. This would not change, in any way, the allotments which have been established for 1953. It might require, however, that in making allotments for 1954 and any subsequent year in which 1952 marketings are considered, the figures which are in the record would have to be revised at hearings held for purposes of allotments. In recommending this course of action, we are mindful of the fact that it will afford relief to the respective allottees without, in any way, reducing the 1953 allotment for any other allottee.

Your signature in the space below will indicate your agreement with the above recommendation and will constitute a direction to proceed in the manner recommended.

Recommended by:	Approved by:
Howard H. Gordon	John H. Davis
Administrator	Asst. Secretary
Sept. 17, 1953	Sept. 22, 1953

Messrs. Benson, Davis, Myers and company are to be commended for their willingness and promptness to afford relief when the need for it was brought to their attention by various Louisiana producers and your Washington representative.

Hearings

Sugar Branch officials have tentatively selected November 16th as the date for the hearing on consumptive requirements of sugar for 1954. The hearing, as usual, will be held in Washington.

Following the consumptive estimate hearing, an informal meeting between USDA officials and members of the industry will be called by Larry Myers for the purpose of discussing the molasses situation and prospects for 1954.

A hearing on allotments for 1954 will be held in New Orleans sometime between November 19th and November 26th. The exact date will be announced later.

Sugar Branch Director Myers will also hold a meeting with sugar marketing experts from the industry sometime in mid-October to draft a new and more workable definition of "marketing" for USDA sugar regulations.

REPORT

(Continued from page 7)

ing these increases, and it appears that no decision will be reached until after the 1953 harvesting season. Regardless of the outcome of this pending action, the League has been largely instrumental in saving its members during 1951, 1952 and 1953 a sum estimated to exceed a half million dollars. This is a concrete illustration of the value of the American Sugar Cane League.

The League, through its Labor Committee, again represented the Louisiana growers at the Wage Rate Hearing held in July. Recommendations were made and comprehensive data compiled and submitted in support of the recommendations.

In Washington Joe Ferris has continued his good work in bringing about closer and more cordial relations with all of the domestic sugar producing areas, and with Cuba, and also with the officials of our Government, and members of Congress.

Right here I want to thank the Louisiana and Florida Congressional delegations, and especially our own Ed Willis, for their efforts in our behalf. Their good work is greatly appreciated by the entire Louisiana sugar industry.

During the early days of the present National Administration, when budgets and appropriations were getting the political axe, funds for sugar plant research were almost completely eliminated from the agricultural appropriation bill. The Washington Office of the American Sugar Cane League, in cooperation with Department of Agriculture officials and members of Congress, was successful in having funds restored to the bill and increased to an amount sufficient to enable the most important sugar plant studies to be continued and expanded according to plan.

In addition to his regular duties, Mr. Ferris is serving on a special industry committee to develop an advertising campaign on sugar.

Thanks to the efforts of Dr. E. V. Abbott of the USDA Houma Experiment Station, the Stunting Disease of sugarcane was definitely recognized in Louisiana this year, and the American Sugar Cane League is working with the scientists of the USDA Houma Experiment Station and the LSU Experiment Station to develop ways and means to control this disease. A portable heating chamber is now being constructed at League expense by the scientists of LSU that will be in use this fall to treat seed canes at the secondary stations. The treated cane will be increased and will serve as a source of disease-free seed cane for growers.

Another outstanding scientific development this year has been the successful attempt by Dr. S. J. P. Chilton to induce flowering of sugarcane by controlling the daylight period. The American Sugar Cane League is actively backing Dr. Chilton in this work and is also an active participant in the cane breeding work being done at Canal Point, Florida and Grande Isle, Louisiana.

Some of the other activities of the committees and the personnel of the American Sugar Cane League this year have been:

Testifying at a Molasses Price Hearing in Washington.

Testifying at a Sugar Price Hearing in Washington.

Meeting with representatives of other domestic areas and with officials in Washington to discuss the administration of the Sugar Act.

Pushing the use of blackstrap molasses by the cattle and dairy farmers of Louisiana and Mississippi through radio talks, personal contacts, and letters.

Encouraging experiments using blackstrap molasses in cattle feeding.

Working with Mr. R. M. Ramp of the Houma Experiment Station to develop a new type cane harvester and a top shredder.

Working with Mr. Irwin L. Savason of the USDA in his land grad-

ing and other drainage experiments.

Working with Louisiana State University and the Southern Regional Research Laboratory on milling and clarification tests of new cane varieties.

Working with Dr. Efferson, Mr. Taggart, and Dean Lee on economic studies of the sugar industry.

Making a survey of perquisites furnished sugarcane workers.

Cooperating with other farming organizations in a movement to increase public support for agricultural research and education.

Testifying at two congressional hearings on flood control; and many other things too numerous to mention.

Last fall we revised the three-way agreement between the United States Department of Agriculture, the Louisiana State Experiment Station, and the American Sugar Cane League to bring this agreement up-to-date and the League supervised the distribution of the new variety CP 44-154 for commercial planting.

Mr. Wallace Kemper represented the American Sugar Cane League at the International Sugar Conference held in London, England, in July. Agreement was reached at this Conference on plans to stabilize the world sugar market.

From this brief report you will see that this has been a very full year. There are many active committees in the American Sugar Cane League and this means that many of our members are giving much time and much thought to the job of protecting and advancing the welfare of the Louisiana Sugar Industry. The League's success is due to the good work of these committees and I am sure that you will join with me in thanking every committee member for his unselfish service.

The employees of the League have worked hard to accomplish the many jobs that have had to be done and I want them to know that we all appreciate their good work. We are very fortunate to have such loyal people working for us.

This year, as in all years, members of the American Sugar Cane League have been called home to their Maker and those who have been left behind have felt the great loneliness that comes with the loss of a loved one. To these saddened people I extend my deepest sympathies.

Two past presidents of the American Sugar Cane League died during the early part of the year. Senator Edward J. Gay passed away January 28th, to be followed by George L. Billeaud, who died March 16th. These men were leaders of the highest order and their presence has been sorely missed by all of us. Andrew P. Gay has replaced his father as a member of the League's Executive Committee and I am sure he will prove a worthy successor to his illustrious parent.

In closing I want to again emphasize how much I appreciate the high honor that has been mine during the past two years. It has been a great pleasure to be your President.

UP FRONT

(Continued from page 4)

League's attorney, has checked the law and discovered that, despite information from the State Department of Revenue to the contrary, the law still says that the expiration date for truck licenses is December 31st.

This means that if you have a cane truck or trailer that you only use from October through December, you may still obtain a license for it, as you did last season, on the October-December prorated basis instead of the seven months prorated license originally demanded by the State Department of Revenue. If anybody tells you this is not so, call the Motor Vehicle Division of the Department of Revenue in Baton Rouge and ask for either Mr. Laycock, or Mr. Breaux, or Mr. Dupuy,

or call the League's office in New Orleans.

Freight Rates

As a result of long efforts by the Freight Rate Committee of the American Sugar Cane League, the executive Committee of the Southern Lines railroads has recommended restoration of a freight differential over New Orleans of only 3 cents for sugar shipped from Western Louisiana points to destination in the Southeast.

The restoration of this 3 cent basis differential will result in considerable savings to those who ship sugar from points in Louisiana west of the Mississippi River to destinations in the southeastern states. The differential had risen to as much as 6 cents in some cases.

While on the subject of freight rates, Mr. Borne states in his report that during the past three years the League has saved the Louisiana cane farmers and mill operators over half a million dollars by successfully opposing freight rate increases sought by the railroads.

RATOON DISEASE

(Continued from page 5)

"running out" of the variety. In other words, the yield of a cane gradually dropped and it was eventually replaced by a newcomer which retrieved the position and in some cases improved it.

Our present knowledge of the disease and its effects on our commercial canes have led us to develop the theory that ratoon stunting disease is the basic cause of the "running out" of cane varieties over the years. Such a theory explains many mysteries in our industry. It answers the question why a good variety falls from favour through decreasing yields, since over a period of years it would become progressively more diseased. It explains why promising seedling varieties fall by the wayside after producing so well in their early years on Experiment Stations. It explains why other varieties, the resistant ones, persist in cultivation over long periods.

It is obvious from what I have already said that one means of control is the selection of planting material only from well grown ratoon crops. Any ratoons which have not developed normally should not be used in any circumstances and it is inadvisable to use plant cane unless it has a clean history. Our field advisers or supervisors of Cane Pest and Disease Control Boards can inspect fields for their suitability for planting and can, by cutting into a number of stalks, find whether any internal symptoms of the disease are present. These simple measures will, in themselves, exercise some measure of control.

There is only one sure way, so far as we know at present, to ensure complete freedom from ratoon stunting disease. That is by hot-water treatment of planting material. This is nothing new since we have for years been curing chlorotic streak in sugar-cane setts by immersing them in water at 52° C. for 20 minutes. Ratoon stunting disease, however, is more resistant to heat treatment than is chlorotic streak and it is necessary for adequate control to immerse for two hours at 50° C.

We have given considerable publicity to this treatment. During last year we advocated 53° C. for one hour and, although this is very effective with Q.28, it is now found to be too severe on certain other varieties. By reducing the temperature to 50° C. the damage to buds is eliminated, but the period of treatment has to be doubled. There is ample evidence that the heat treatment cures the disease, and the ratoons grown from hot-water treated plants of Q.28 are about twice as vigorous as those from diseased plants.

It is certainly in the best interests of the industry that a concerted and

energetic attempt be made to introduce this control measure into all areas. We have held discussions with various Cane Pest and Disease Control Boards and some have already treated appreciable tonnages of plants to provide a nucleus of clean stocks for their areas. The heat treated stocks will remain clean only so long as they are not reinfected by knives or other implements previously used on diseased cane, but with normal care it is practicable for any grower to clean up his own farm in three or four years. That is what we are doing on our Experiment Stations. Hot-water treatment is not a recommended farm practice; it is one for co-operative effort. Steam is the cheapest method of heating water and the obvious system is for a large tank at a mill to be heated by steam and the bags or baskets of plants to be immersed and taken out by means of a crane. Careful attention to temperature is essential and the hot water must be kept in movement to prevent local overheating.

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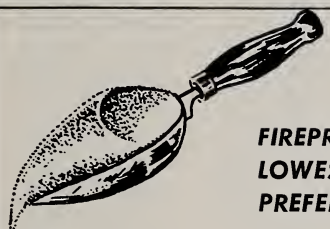

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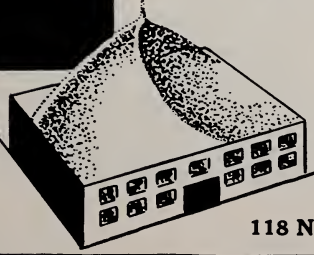

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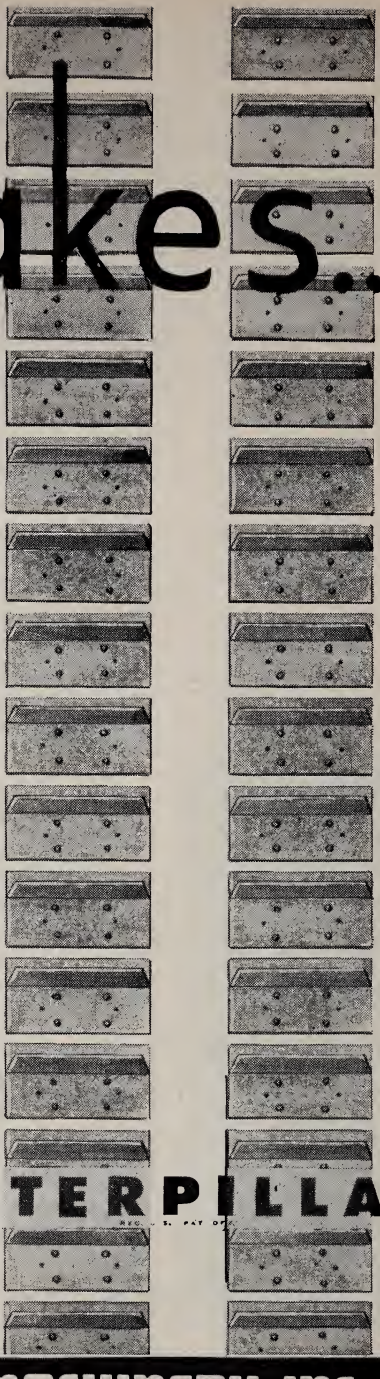

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THE SUGAR BULLETIN

Vol. 32—No. 2 OCTOBER 15, 1953

Official Bulletin of the American Sugar Cane League of the U. S. A.

Philip Hebert, Sr., David P. Landry, and Lloyd L. Lauden

Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

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Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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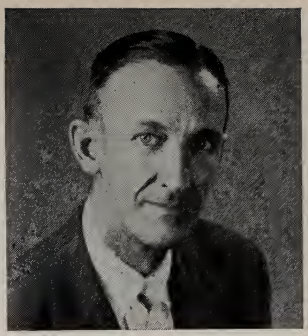
UP FRONT WITH THE LEAGUE

by A. W. DYKERS



Sugar For Iran

We had a chance a few days ago to get out from under acreage restrictions and mill marketing allotments, but the Government wouldn't let us.

Forty-six thousand tons of sugar were bought for Iran and your League contended that it should have been bought from Louisiana and Florida. On September 28th the following letter was sent to Mr. Lawrence Myers, Head of the Sugar Branch, setting forth this contention.

"Today we received your annoucement concerning the contemplated purchases of 50,000 short tons of sugar for shipment to Iran. We notice that you propose to accept offers from foreign countries.

"We respectfully suggest that since the tax dollars collected from United States citizens will be used to finance this foreign aid program, the program should be so operated as to relieve the troublesome situation which exists in the mainland cane area. It would seem proper for you to follow the same policy that is followed with respect to wheat, rice, and other agricultural commodities furnished by the United States to foreign countries under the foreign aid program. As we understand it, the policy has been, and still is, to buy domestically produced commodities whenever they are available. We further understand that the prices paid for these commodities by our Government are United States market prices rather than world prices. It is almost unbelieveable that you propose to follow a different policy.

"We request that the sugar you buy for shipment to Iran be sugar made from cane grown in the mainland cane area. Such purchases will reduce the supplies of over quota sugar. The entire 50,000 tons you now contemplate buying could be supplied by the mainland cane area and another 50,000 tons could probably also be supplied.

"Purchases made in the manner that we suggest would not only be in keeping with the policy with respect to other commodities, but would be in keeping with the Administration's desire to avoid unnecessary controls on agricultural producers and processors."

On September 30th the League wired Mr. Myers and said, "Vigorously protest your accepting any bid on sugar for Iran until full consideration is given the question of preference to mainland cane sugar by FOA and USDA.", and also wired Mr. Harold Stassen, Administrator of the Foreign Operations Administration, asking him to request the Sugar Branch to "Withhold acceptance of bids on sugar for Iran until full consideration is given the question of preference to surplus sugar in continental United States."

Congressman Willis wrote a letter to Mr. Myers, and Mr. John Minor Wisdom, the Louisiana Republican National Committeeman, protested to Secretary of Agriculture Benson,

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IN THE FIELD WITH LLOYD LAUDEN

Cane Breeding Work

The scientists working on sugar cane breeding for the U. S. D. A. and L. S. U., met with the League on October 6th to discuss the coming cane breeding work to be done at Grand Isle, La., and Canal Point, Fla. Dr. Cecil H. Wadleigh, Head Physiologist in Charge Division of Sugar Plant Investigations, Bureau of Plant Industry, Soils and Agricultural Engineering, Agricultural Research Administration, Beltsville, Maryland, Mr. Carl O. Grassl, sugar cane breeder from Canal Point, Fla., and Dr. E. V. Abbott, Principal Pathologist, Sugar Plant Investigations, Houma, Louisiana, represented the Bureau of Plant Industry, Soils, and Agricultural Engineering of U. S. D. A. Dr. S. J. P. Chilton, Head, Department of Botany, Bacteriology and Plan Pathology, Agricultural Experiment Station, and Dr. Irvin L. Forbes, Assistant Director, Experiment Station, represented Louisiana State University. The League was represented by Messrs. Marcel Voorhies, Stephen C. Munson, Elliott Jones, and the writer. The Bureau of Agricultural and Industrial Chemistry of the U. S. D. A. was represented by Dr. L. F. Martin, Head, Sugarcane Products Division, Southern Regional Research Laboratory, U. S. D. A., and Mr. W. F. Guilbeau, Chemical Engineer, Sugar Cane Products Division, Southern Regional Research Laboratory.

The getting of a new variety of sugar cane is not an easily done task. Several years and many thousands of dollars are spent before a new cane is developed. Not only is there much physical work attached to the science of sugar cane breeding, but much scientific planning is necessary. Cane selected to be used as parents in the breeding program must have certain desirable characteristics such as high yield, good sucrose, low fibre, etc. It is not always easy to make a cross between two canes that have all these desirable qualities. Oftentimes certain crosses are impossible to make either because of the different times of flowering or for some other reason such as weather. We are fortunate, however, that the scientists working for the sugar industry are constantly seeking new ways through basic research to make canes flower when and where they are needed, and that much thought and careful consideration is given the canes to be used in the breeding program.

The morning session of this meeting was spent largely discussing methods to be employed in the actual breeding technique, along with what specific canes should be crossed.

At the afternoon session Mr. Martin reviewed research on the milling and processing of new sugarcane varieties, and considered possibilities for expanding this work to provide information required for a more effective breeding and selection program. Dr. Arthur Keller L. S. U., joined the group for this

(Continued on page 28)

IN WASHINGTON WITH JOE FERRIS

New Labor Secretary

The appointment of James P. Mitchell to the cabinet as head of the Department of Labor took Washington completely by surprise. Mitchell did not figure in the speculation for the top Labor Department post. Such names as former Governor Stassen, New York Labor Commissioner Corsi, Governor Driscoll of New Jersey, and House Labor Committee Chairman McConnell were prominently mentioned.

While he was a comparatively dark horse, Mr. Mitchell, nevertheless, has had a lifetime of experience in personnel and labor management. His most recent government post was Assistant Secretary of the Army. During World War II, Mitchell served as Director of the War Department's Industrial Personnel Division in which post he was responsible for all labor and manpower problems that affected army production and for nearly a million civilian employees of the army service forces.

Mitchell describes himself as a Republican but said he had never been active in politics. He had no idea, he said, how his name was brought to the attention of the White House as a potential Secretary of Labor.

Mitchell is not affiliated with any labor union. However, his work in the War Department and for private industry has brought him into contact with many of the present-day labor leaders.

The appointment of Mitchell, of course, must be confirmed by the Senate. Washington scuttlebutt has it that considerable business opposition might develop because of Mitchell's record of being "too friendly" to labor. The same sources say that the appointment apparently is a victory for the Dewey wing of the party and that one of Dewey's key lieutenants was responsible for boosting Mitchell into the post.

Conference Postponed

USDA's forthcoming conference of marketing experts with a view to revising the present definition of "marketing" originally scheduled for mid-October has been changed to mid-November.

Sugar Branch Director Lawrence Myers will have the meeting either just before or shortly after the consumptive estimate hearing on November 16th. According to Myers, the same individuals from sugar areas would probably have to attend both the meeting on marketing and the consumptive estimate hearing, and by changing the date, one trip to Washington will suffice.

Puerto Rican Meetings

Dudley Smith, amiable, hardworking Vice President of the Association of Sugar Producers of Puerto Rico, has departed on a three-weeks mission to that island. According to Dudley, he will attend a meeting of the Board of Directors of his Association on October 13th. He will remain in Puerto Rico for the USDA's wage and fair price hearing scheduled for October 22nd and 23rd. Puerto Rican sugar producers have expressed great concern over

(Continued on page 28)

A STATEMENT BY PRESIDENT DUHE ON THE LABOR SITUATION

Much publicity has been given thru the press in recent weeks to attempts by the National Agricultural Workers Union to organize the sugar-cane workers of Louisiana, and of a threatened strike if the Union is not recognized by the sugar cane farmers and if wage rates are not materially increased. Much of the published information, all emanating from representatives of the Union, is fallacious and misleading. Because of the importance of the sugar industry to the economy of this state and in order to clarify the position of the sugar cane farmers, the American Sugar Cane League, an organization of sugar cane farmers and processors, feels impelled to issue this statement.

With particular respect to wages, the sugar cane and sugar beet growers are the only farmers in the United States required to pay wage rates established by the Federal Government. These rates are fixed by the United States Department of Agriculture each year after a public hearing and extensive investigation. All interested persons are invited to testify, and during the past two years representatives of the National Agricultural Workers Union and other organizations have testified at the hearings and presented all available facts which they rely on to justify higher wages. Following the hearing and investigation each year, the Department of Agriculture, acting as disinterested and unbaised arbiter, establishes the highest rates it feels the average sugar cane farmers can afford to pay. We believe it is a generally recognized fact that the Federal Government at all times protects the interest of the wage earner in his relationship with his employer. Under the Sugar Act of 1948, at least these prescribed rates must be paid or unbearable penalties are inflicted.

The farmer's ability to pay depends almost entirely on the price of raw sugar. The price of raw sugar today is at approximately the same level as in 1947 during OPA control. However, the harvesting wage rates during this same period, based on today's price of raw sugar, have increased approximately 25%. The facts conclusively indicate that the Department of Agriculture has followed a policy of setting rates above the level which many small farmers have been able to pay. As a result of this policy many of them have found it unprofitable to grow sugar cane. In 1948 there were 10,200 sugar cane growers in Louisiana as compared to only 8,200 in 1952. In other words 2,000 small farmers have been forced out of business during a period of four years. This deplorable trend would be speeded up by any further increases in wage rates unless such increases were accompanied by an increased price to the farmer.

The Wage Determinations of the Department of Agriculture provide for automatic wage increases in proportion to any increase in the price of sugar. Facts developed by the Louisiana State Agricultural Experiment Station indicate that during the harvest season workers receive almost 100% of the dollar value of any increase in sugar cane prices resulting from a raw sugar price rise. In addition to paying cash wages, sugar cane farmers are required to furnish the workers certain customary perquisites such as houses and garden plots.

Sugar cane farmers as well as other farmers are unable to pay wages comparable to industrial rates. However, the average sugar cane farmer is paying all he can afford. These rates compare favor-

(Continued on page 30)

FAIR AND REASONABLE WAGE RATES

Editor's note: The Harvesting and Cultivation Wage Rate Determination was carried in the October 1st, 1953 issue of *The Sugar Bulletin.*

The following is an official explanation by Mr. John H. Davis, 1st Assistant Secretary of Agriculture, telling why the Government issued the Wage Determination.

Statement of Bases and Considerations

(a) *General.* The foregoing determination provides fair and reasonable wage rates which a producer in Louisiana must pay, as a minimum, for work performed by persons employed on the farm in the harvesting of the 1953 crop of sugarcane and in the production and cultivation of sugarcane during the 1954 calendar year, as one of the conditions for payment under the act.

(b) *Requirements of the act and standards employed.* In determining fair and reasonable wage rates the act requires that a public hearing be held, that investigations be made, and that consideration be given to (1) the standards formerly established by the Secretary under the Agricultural Adjustment Act, as amended, and (2) the differences in conditions among various sugar producing areas.

A public hearing was held in Thibodaux, Louisiana, on July 16, 1953, at which interested persons presented testimony with respect to fair and reasonable wage rates for harvesting the 1953 crop of sugarcane and for the production and cultivation of sugarcane during the calendar year 1954. In addition, investigations have been made of the conditions affecting wage rates in Louisiana. In this determination the primary factors which have been considered are (1) cost of living; (2) prices of sugar and by-products; (3) income from sugarcane; and (4) cost of production. Other economic influences also have been considered.

(c) *1953 harvest and 1954 production and cultivation wage determination.* This determination brings together the wage rates for harvesting and production and cultivation work which have heretofore been covered by two determinations. This determination differs from the 1952 harvest and 1953 production and cultivation wage determinations in the following respects: (1) Day rates for adult workers and piecework rates are increased five percent at the base price range; (2) specific wage rates for workers between 14 and 16 years of age, employed in production and cultivation work, are now established at rates not less than three-fourths of the respective adult rates; (3) compensable working time is specified; and (4) requirements are established for furnishing the equipment necessary to perform work assignments.

At the public hearing representatives of producers recommended an increase of five percent in basic time rates; the continuance of separate determinations for harvesting and for production and cultivation work; the continuance of rates per 9-hour day; clarification of the provision with respect to compensable working time; and that the determination not include a provision requiring producers to furnish working tools to workers free of charge. A representative of one labor union recommended a minimum wage, with no seasonal differential, of 75 cents per hour for unskilled workers and $1.00 per hour for tractor drivers and workers of similar skills; that the wage-price escalator be discontinued; that the determination continue to provide a rate per 9-hour day; that the furnishing of hand tools and equipment be the responsibility of the employer; and that compensable time begin and end at the assembly point for work-

(Continued on next page)

ers. Another union representative generally concurred in this position, although he expressed a preference for hourly rates instead of 9-hour day rates and one determination covering harvest and production and cultivation work. Social service workers at the hearing urged improvements in workers' annual earnings, working conditions and housing standards.

Consideration has been given to the recommendations and supporting testimony presented at the public hearing, to the standards customarily considered in wage determinations, to information obtained through investigation and to the returns, costs and profits of sugarcane producers. The analysis indicates that the proposed wage increase will be within producers' ability to pay in view of the continuing improvement in production efficiencies in the area. The increase in time wage rates corresponds to the recommendation of producer representatives. Piecework rates are increased in the same proportion to retain the same relationship. The economic position of the average producer does not permit an increase in wage rates of the proportions recommended by representatives of labor.

The consolidation of wage rates for harvesting and production and cultivation work into one determination is in conformity with the practice in all other areas. The primary objection of the representative of producers was that a consolidation of the two determinations would result in the establishment of wage rates for production and cultivation two or three months earlier and therefore would not permit the Department to give consideration to any substantial changes in economic conditions which might occur in the meantime. Since the determination includes a wage-price esclator, wage rates are responsive to changes in sugar prices which affect the income of producers.

The specifications regarding compensable working time and the furnishing of equipment are deemed necessary so that producers and workers may have full knowledge of these requirements. Investigation in the Louisiana sugarcane area disclosed considerable variation in practices resulting in confusion and misunderstandings among producers and workers.

The provision for a proportionate rate for workers 14 to 16 years of age in production and cultivation work makes the rate pattern uniform with the harvesting schedule. It permits variable rates of pay to such workers based upon the adult job classification rather than a single rate fixed solely by age group.

After consideration of all factors, the wage rates and other provisions in this determination are deemed to be fair and reasonable.

Accordingly, I hereby find and conclude that the foregoing wage determination will effectuate the wage provisions of the Sugar Act, as amended. (Sec. 403, 61 Stat. 932; 7 U.S.C. Sup. 1153. Interprets or applies sec. 301, 61 Stat. 929; 7 U.S.C. Sup. 1131.)

Issued this 22 day of Sept., 1953.

John H. Davis,
1st Asst. Secretary of Agriculture

The Cover

The three gentlemen pictured on the cover of this issue are Mr. Philip Hebert, Sr., Mr. David P. Landry, and Mr. Lloyd L. Lauden. They are looking at canes in the League's exhibit at the Louisiana Sugar Cane Festival and Fair.

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RULES OF THE LOUISIANA SUGAR EXCHANGE GOVERNING QUOTATIONS OF LOUISIANA BLACKSTRAP MOLASSES

Standard Louisiana Blackstrap—Not less than 42 Baume at 90 degrees F. or its equivalent. No molasses sold on grade will be considered as Blackstrap for quotation purposes.

Terms—Bulk f.o.b. plantation in railroad tank cars or barges.

Quantity—Not less than 5 railroad tank cars or the equivalent which is not less than 30,000 gallons.

Shipment — Prompt (shipment to be completed within 30 days).

Tank Car Shipments: Five railroad tank cars. Each unit of five tank cars shall be used as a separate unit for arriving at daily prices as follows: 5 through 9 tank cars shall be considered as 1 unit for quotation purposes. 10 through 14 tank cars shall be considered as 2 units for quotation purposes. 15 through 19 tank cars shall be considered as 3 units for quotation purposes and, etc.

Barge Shipments: In the event shipment is made by barge, a quotable unit shall be as follows: 30,000 through 59,999 gallons shall be considered as 1 unit for quotation purposes.

60,000 through 89,999 gallons shall be considered as 2 units for quotation purposes.

90,000 through 119,999 gallons shall be considered as 3 units for quotation purposes and, etc.

Kind of Sale—Only prompt sales made for the account of a Louisiana processor to a recognized dealer will be used in establishing quotations. Sales made during the Cane Purchase Contract period to a recognized dealer by a refiner processing cane in Louisiana shall also be used for quotation purposes. No resales of any nature shall be considered.

Reporting Transactions—All transactions must be reported to the Exchange by telephone or otherwise by either the seller or buyer or their agents not later than 2 P.M. on the day on which they are consumated and these must be confirmed by either the seller or buyer or their agents on forms furnished by the Exchange for this purpose which forms must be mailed to the Exchange on the same day that the transaction is reported. Sales completed before 2 P.M. shall be used in arriving at a price for the day. Sales completed after 2 P.M. shall be carried over to the following market day and included in the sales of that day. No information on sales of the current day shall be divulged by the Exchange until after the close of the market (2 P.M.)

To confirm the completion of contracts within the specified spot transaction period (shipment to be completed within 30 days), the producer of the blackstrap under contract shall be furnished a form by the Exchange which the producer shall mail to the Exchange when the shipment under contract is completed.

Daily Average Quotations — All daily average quotations shall be the simple average of the quotable transactions as defined in the preceding paragraphs of these rules. When no quotable transactions are recorded on any given day the quotation for that day shall be the last previous daily average quotation.

Weekly Average Quotations — Weekly average quotations shall be established by taking the simple average of the daily quotations of this Exchange.

Average Price for the Season—The Season's Average Price shall be established by taking the simple average of the weekly average quotations issued by this Exchange applicable to the *Cane Purchase Contract Period.*

Corrections — The Exchange reserves the right to correct any erroneous quotations.

RULES OF THE LOUISIANA SUGAR EXCHANGE GOVERNING LOUISIANA RAW SUGAR QUOTATIONS

Refiners — American, Godchaux, Colonial, and Henderson for Louisiana raws.

American, Godchaux, Colonial, Henderson, South Coast, Southdown, Sterling, and Supreme for offshore raws.

Terms—F.O.B. New Orleans duty paid basis.

Quantity—Not less than 1,000 bags of Louisiana raw sugar or less than 1,000 long tons of offshore raw sugar.

Kind of Sale—Only spot sales (delivery within 35 days) covered by contract between a Louisiana raw sugar producer, or a seller of offshore raw sugar, and any one of the refiners listed above shall be considered a spot sale of raw sugar. Only sales covered by one contract shall be considered, and no resales from one refiner to another refiner shall be considered.

Time Limit for Sales—Sales completed before 2:00 P.M. shall be used in arriving at a price for the day. All sales completed after 2:00 P.M. shall be carried over to the following market day and included in the sales of that day. The Exchange week shall be Friday thru Thursday.

Holidays — The Louisiana Sugar Exchange, Inc., shall be closed when the New York sugar market is closed.

Daily Average Prices—All daily average prices shall be the simple average of the spot sales of Louisiana raws or offshore raws to the refiners listed above on any given day. When no spot sales of Louisiana raws or offshore raws to the refiners listed above are reported on any given day the quotation for that day shall be the daily spot quotation of the New York Coffee & Sugar Exchange adjusted to a duty paid delivered New Orleans basis by using the freight rate differential from Cuba, if any, existing between New York and New Orleans as furnished by James E. Ward & Co., of New York.

Weekly Average Prices — Weekly average prices shall be established by taking the simple average of the daily quotations of this Exchange.

Average Price for the Season—The Season's average price shall be established by taking the simple average of the weekly average prices issued by this Exchange applicable to the Cane Purchase Contract Period.

Correction of Quotations — The Exchange reserves the right to adjust any erroneous quotations.

UP FRONT

(Continued from page 19)

but on October 1st, one day after our protest, the PMA announced that 21,000 tons of sugar from Java, 20,000 tons from Belgium, and 5,000 tons from Cuba had been purchased for Iran. Was domestic sugar seriously considered? We doubt it.

This is another instance which confirms the fact that some of our Government officials, in trying to solve world problems, give little thought to the problems of United States citizens.

It All Depends

Year after year representatives of the National Confectioners' Association have come to Washington and advocated that the sugar consumption estimate be placed high to keep the price of sugar low. They have consistently ignored the pleas of the domestic sugar producers that we cannot compete with cheap foreign production.

A few days ago representatives of the National Confectioners' Association were again in Washington, this time to talk to the Committee

COMMERCIALLY RECOVERABLE SUGAR DETERMINATION 833.2, AMDT. 1, REVISED FOR LOUISIANA SUGAR CANE 1953 CROP

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% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane	% Sucrose Normal Juice	Cwt. Sugar Per Ton Cane
8.0	.899	11.5	1.518	15.0	2.080
8.1	.916	11.6	1.534	15.1	2.097
8.2	.933	11.7	1.549	15.2	2.113
8.3	.949	11.8	1.565	15.3	2.130
8.4	.966	11.9	1.580	15.4	2.146
8.5	.983	12.0	1.596	15.5	2.163
8.6	1.000	12.1	1.612	15.6	2.180
8.7	1.017	12.2	1.628	15.7	2.196
8.8	1.033	12.3	1.644	15.8	2.213
8.9	1.050	12.4	1.660	15.9	2.229
9.0	1.067	12.5	1.675	16.0	2.246
9.1	1.087	12.6	1.691	16.1	2.263
9.2	1.106	12.7	1.707	16.2	2.280
9.3	1.126	12.8	1.723	16.3	2.296
9.4	1.146	12.9	1.739	16.4	2.313
9.5	1.165	13.0	1.755	16.5	2.330
9.6	1.185	13.1	1.771	16.6	2.347
9.7	1.205	13.2	1.787	16.7	2.364
9.8	1.225	13.3	1.803	16.8	2.380
9.9	1.244	13.4	1.819	16.9	2.397
10.0	1.264	13.5	1.835	17.0	2.414
10.1	1.282	13.6	1.852	17.1	2.431
10.2	1.299	13.7	1.868	17.2	2.448
10.3	1.317	13.8	1.884	17.3	2.465
10.4	1.334	13.9	1.900	17.4	2.482
10.5	1.352	14.0	1.916	17.5	2.499
10.6	1.370	14.1	1.932	17.6	2.517
10.7	1.387	14.2	1.949	17.7	2.534
10.8	1.405	14.3	1.965	17.8	2.551
10.9	1.422	14.4	1,982	17.9	2.568
11.0	1.440	14.5	1.998	18.0	2.585
11.1	1.456	14.6	2.014		
11.2	1.471	14.7	2.031		
11.3	1.487	14.8	2.047		
11.4	1.502	14.9	2.064		

on Reciprocity Information, which is the Committee that President Eisenhower recently appointed to study the Reciprocal Trade Agreements Act. This time, however, the story was different.

The Association complained that the reduction in the duty on candy from 40 cents to 14 cents is ruining them. All of which goes to prove what Confucius, or some other wise man, discovered a long time ago, to-wit: "It all depends on whose ox is being gored," or, to use a more modern version, "who gets it in the neck."

For The Birds

While on the subject of duties, look at what this free or freer trade business is doing to our oil people. The daily Louisiana oil production allowable for October has been cut a total of 75,000 barrels under the September allowable, and Conservation Commissioner John B. Hussey blames most of the cut on the importation of foreign oil.

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IN THE FIELD

(Continued from page 20)

session to discuss the milling work, and Dr. Martin reviewed the pilot plant clarification and processing experiments, as well as chemical research that has been started to determine the composition of juice and its relation to processing quality of the different varieties tested. Dr. Wadleigh discussed the value and importance of this chemical work, pointing out the need for an inventory of the substance present in sugarcane to serve as a guide in early selection of canes having good processing, as well as agronomic qualities.

The League will do all that it can to see the continuation and expansion of this project. Any project that will hasten the development of the new superior varieties is deserving of the support of the entire sugar industry.

Incidentally, due to the efforts of the American Sugar Cane League and the cooperation of the Congressmen from Louisiana and Florida, the U. S. D. A. has obtained sufficient funds to increase its experimental work in sugar cane breeding. This year Dr. Abbott will have a new greenhouse at Houma, and the facilities at the U. S. D. A. station at Canal Point, Florida, will be increased.

IN WASHINGTON

(Continued from page 21)

the increase in agricultural wages for sugar workers in Florida and Louisiana recently decreed by the Department of Agriculture and are fearful that Puerto Rico will also get a wage hike.

On October 28th and 29th, Mr. Smith will attend the Puerto Rican industry's meeting to discuss sugar research problems. Some of the topics to be taken up at this same meeting are as follows:

1. Lack of earnings
2. Limitations on production
3. Sagging prices of sugar and molasses
4. Low labor productivity
5. High agricultural labor costs
5. Increasing wage rate in relation to lagging prices
7. Loss of labor at peak of harvest season
8. Lack of development of machinery to reduce labor costs
9. Lack of improved varieties and farm practices
10. Failure of sugarcane research in Puerto Rico to keep pace with other areas

Sweet Facts

The forthcoming decision of the sugar industry as to whether or not it should embark on a continuing advertising campaign pointing out the merits of sugar remains the principal topic of interest at all places where Sugar people meet. Here are some things which can honestly be said for sugar:

(a) Sugar is the fundamental basis of all life on earth.

(b) Sugar is the primary source of all food energy as well as the energy of coal, petroleum, natural gas and oil-shale.

(c) Every person and every animal would drop dead instantly except for the sugar in his blood.

(d) Sugar is in every green plant; it is a great natural food.

(e) Sugar is the most efficient source of food energy, sugar cane or sugar beets producing more energy per acre-year than any other crop.

(f) Sugar is the cheapest source of food energy.

(g) Sugar is assimilated more quickly, readily, and completely than any other food.

(h) Sugar is commercially produced in a state of high chemical purity, 99.9+%. This is true of only three major food ingredients: salt, water, and sugar.

(i) Sugar keeps indefinitely without special precautions.

(j) Sugar serves to preserve other foods.

(k) Sugar tastes good; it is psychologically satisfying.

(l) Sugar brings out and enhances other flavors.

(m) Sugar stimulates appetite.

(n) By caramelization sugar lends aroma and color appeal to food products.

(o) Sugar dissolves in water readily and is easily handled in either liquid or solid form.

(p) Sugar has a protein-sparing action greater than that of other common carbohydrates. Since protein is the most expensive of the three main food categories, often costing 10-20 times as much as sugar, this is of economic importance.

(q) Aged people and hospital patients can be maintained for long periods of time by feeding intravenous invert sugar.

(r) Intravenous invert sugar can be used at twice the concentration of competing materials with no more loss by excretion through the kidneys.

If you have any doubt about the widespread ignorance of mis-information about sugar try these on any of your friends outside the industry and note the expressions of amazement.

UP FRONT

(Continued from page 27)

"Every barrel of foreign oil which supplants a barrel of Louisiana crude decreases the revenue that educates your children and mine.", Mr. Hussy told oil men in New Orleans early this month. He might have also added (and perhaps he did but the news article didn't carry it) that it decreases the revenue of the parents of the children, and generally lowers the standard of living in the United States.

It is good to see that an ever increasing number of people are coming to realize that free or freer trade is not what it is cracked up to be. It is one of those high sounding theories that is great for the other fellow.

Appoint Agents

Mr. W. J. Amoss, President of the Valentine Pulp and Paper Co., has announced the appointment of the Perkins-Goodwin Company, an international marketing organization, as the exclusive sales agents of all products to be produced by the new Valentine Pulp and Paper mill. The new mill is scheduled to start production during the early part of 1954.

Perkins-Goodwin's headquarters is at 30 Rockefeller Plaza in New York City. They have sales offices in Chicago, Boston, Lufkin (Texas), and Stockholm, Sweden.

Sugar Boiler Needed

The Albania Sugar Cooperative at Jeanerette needs a sugar boiler to work the present crop. Contact Mr. George Blumenthal by phone at Jeanerette 4338 if you know of anyone who would be interested in this job.

Bench Chemist

If you need a bench chemist Mr. Jesus F. Pagan, of Toa Baja, Puerto Rico, who has had 31 years experience, five of which were in Louisiana, is available. Contact him at Toa Baja, Puerto Rico.

Crop Prospects

The Louisiana Crop Reporting Service reports the prospects of the cane crop as unchanged on September 1st with an indicated cane production of 6,040,000 tons. The estimated average yield per acre is still 20 tons.

The report does not say so, but by the time this appears in print all of the mills will probably be grinding. A quick check indicated that Terrebonne was the first mill to begin operations. Grinding started there on October 2nd.

* * *

Sugar is the most produced and cheapest organic chemical in the world.

* * *

Columbus introduced sugar cane culture to the Americas.

PRESIDENT DUHE

(Continued from page 22)

ably with those paid by other farmers in the State of Louisiana and adjoining states.

During the 1953 harvesting season the Louisiana sugar cane farmers, under the Wage Determination of the Department of Agriculture, will pay at least $5.70 a day to harvester operators, $5.28 to tractor drivers, and $4.49 to cane cutters if the price of raw sugar maintains its present level. Workers who perform piece work or task work earn considerably more than these amounts.

Union spokesmen have announced their intention of calling a strike of sugar cane workers during the harvest season. A strike or other action by any group which would prevent or delay the harvesting of the sugar cane crop would result in an unprecedented calamity. Sugar cane is a highly perishable commodity, and must be harvested during the fall before freeze damage makes the cane unfit for processing. Spoiled sugar cane will represent a loss to growers, workers, processors and to the entire state.

The entire State of Louisiana should join the Louisiana sugar cane farmers in vigorously opposing any

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action which would cause a loss of the sugar cane crop. Sugar cane is one of Louisiana's three largest crops. It is grown in twenty parishes and is the major cash crop and major source of income in half of these parishes. The proceeds of this crop will be spent in Louisiana for labor, machinery, fertilizer and other essential requirements of the farmer. The sugar industry makes a substantial contribution to the economy of Louisiana. Any interruption in the sugar cane harvest would be disastrous to the general welfare of a large portion of the state.

Under both Louisiana and Federal statutes dealing with labor relations, agricultural labor is specifically excluded from coverage. There is a fundamental reason for this position having been taken by Congress and the State Legislature. The reason for this policy was well stated by the Sub-Committee Number One of the House Committee on Education and Labor of the 81st Congress as follows:

The National Farm Labor Union recommends removal of the exemptions of agricultural labor from labor relation. Agricultural labor has been exempted from all labor relations legislation ever written. The evidence before the sub-committee shows that it would be harmful to the public interest and to all responsible labor unions to legislate otherwise. The evidence shows that a strike of any serious proportions in agriculture would choke off interstate commerce in necessary foodstuffs, would cause incalculable harm to the public, and would antagonize public opinion to the cause of trade-unionism. It would not only result in temporary distress of a character more serious than has ever been experienced, it would result in permanent loss of farm employment and permanent loss to the public of farm production and, of course, permanent ruin to the farmers of the Nation."

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THE SUGAR BULLETIN

Vol. 32—No. 3 NOVEMBER 1, 1953

Official Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

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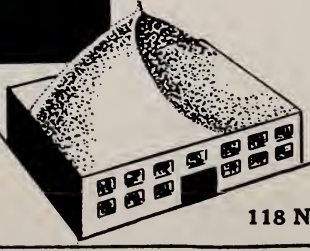

DOUGLAS PUBLIC SERVICE CORPORATION

118 N. Front St. MA 5353 New Orleans, La.

THE
SUGAR BULLETIN
414 Whitney Bldg., New Orleans 12
Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor
Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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UP FRONT WITH THE LEAGUE

by A. W. DYKERS

The Strike

Everyone should know by now that there is a strike going on in the Louisiana cane fields. On the morning of October 12th, Henry (alias "Hank") Hasiwar decided that the time was ripe to make the Louisiana sugar cane farmers bow to his demand and recognize his Local 317 of the National Agricultural Workers Union (AFL) as the bargaining agent for workers in the cane fields. He ordered some two or three thousand of his "members" to strike, and enough of them stayed away from their jobs to cause some harvesting difficulties.

The way the farmers in the affected areas have joined together under the guidance of the American Sugar Cane League, and helped one another, has been a revelation. Their unselfish cooperation has clearly demonstrated what can be accomplished if we all pull together. Many of the workers who originally obeyed the union bosses have realized their mistake and are now back on the job. The strike has actually had no serious effect on grinding operations.

It would be a big mistake, however, to feel that the fight has been won. Labor union bosses can't afford to give up without causing a lot of trouble and if we let our guard down now we will most certainly be hit again and the next blow might ruin us. Violence has already occurred in Terrebonne Parish and could easily break out in other places.

Right here we want to warn those farmers who are not now troubled by the strike against thinking that the union will not bother them. It goes without saying that if the union leaders are successful anywhere in the Sugar Belt they will not rest until every sugar cane farm in the State is "organized".

It does not matter how much or how little cane you produce, this is your fight and the time to win it is now.

Your League is battling with everything it has and is confident of ultimate victory.

The Fight

Your League has waged a very active campaign in this fight. We have used three radio stations to explain the stand taken by the cane farmers and have also employed two sound trucks to visit both the large and small farms affected by the strike. Hand bills have been prepared and distributed among the striking workmen, and other hand bills have been distributed in the areas threatened by a strike. A great many meetings with influential people have been held and we have helped to successfully defend in court the rights of the farmers to evict workmen who will not work. Your League carried a half-page advertisement in the Sunday, October 25th edition of the Times-Picayune-New Orleans States to explain the position that we have tak-

(Continued On Page 41)

IN THE FIELD WITH LLOYD LAUDEN

The League Is Now Treating Seed Cane Experimentally With Hot Air To Control The Stunting Disease

An article, "Decisions on the Control of the Stunting Disease" was carried in the August 15 issue of *"The Sugar Bulletin"* and told of the League's plan to treat seed cane on a fairly large experimental scale for the control of the Stunting disease. The plantations chosen were Secondary Increase Stations already in the cane increase program and well distributed geographically over the sugar cane area. The League made available the necessary funds to carry out this experiment.

Since our August 15 issue, some changes have been made in certain equipment and plans. Rather than use the equipment of the Louisiana Department of Agriculture and Immigration, the League elected to construct a chamber which could be placed on an over-sized war surplus motor van which belongs to the Department of Agricultural Engineering, Louisiana Agricultural Experiment Station. Our reason for the change was that this chamber could be removed after the treating period this year and stored for the next coming planting season without disassembling the heating equipment. In addition, this over-sized chamber would treat much more seed than the regular size trailer motor van.

The League was very fortunate to have two engineers, Mr. Harold T. Barr and Mr. Wiley Poole of the Agricultural Engineering Department, Louisiana State University, to design and construct this heating chamber. To the writer's knowledge data from this country on large scale heating of seed cane with hot air was not available. Hot air treating of cane was something about which little or nothing was known. Because of the non-uniformity in size and shapes of cane getting uniform temperature throughout a load of cane in a compartment offered a great problem. Thermocouples placed at different locations throughout the load indicated cold spots and hot spots when the cane was placed in the chamber in a solid mass. Racks were made in order to allow the air to circulate; then channeling of the hot air became a problem. Channeling of the air was prevented by making more exhaust outlets at different places, closing up certain other vents, and carefully controlling the amount of heat applied and the amount of air blown into the chamber.

Mr. Leon Nugent, a graduate of the Agronomy Department L. S. U. was employed by the League to operate this unit. He has materially assisted in bringing about even distribution of heat in this cane treating unit. By experience he has found the exact amount of cane to treat at one time, its placement in the unit, the amount of heat to apply and how fast to operate the blower to reach and maintain temperature that will kill the disease and not kill the cane.

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IN WASHINGTON WITH JOE FERRIS

USDA Re-Organization

Secretary Benson's USDA Re-Organization Plan is scheduled to become effective between November 1 and November 10.

The plan reduces the number of units reporting to the Secretary from 20 to 4.

The heads of the new units are as follows:

Federal-States Relations: Agencies in this group would include: Agricultural Research Service, Forest Service, Federal Extension Service, Soil Conservation Service, Agricultural Conservation Program Service, and Cooperative Service.

Marketing and Foreign Agriculture: Agencies in this group would be the Agricultural Marketing Service and the Foreign Agricultural Service.

Agricultural Stabilization: Agencies in this group would be Commodity Stabilization Service (including the administration of Commodity Credit Corporation programs), Federal Crop Insurance Corporation, and Community, County, and State Committees.

Agricultural Credit: Agencies in this group would be Farmers Home Administration and Rural Electrification Administration.

The proposed changes are almost 100 percent administrative. There will be new designations for the various Administrations, Divisions and Branches of the Department, but except for title changes for those who head the various units, very few, if any, changes in personnel will be made.

As far as can be learned at the moment, the Sugar Branch will remain intact except for research projects such as bagasse, which will be transferred to the Agricultural Research Service; and molasses, which will be handled by Foreign and Marketing Agriculture.

The Administrative functions of the bureaus that now make up the Agricultural Research Administration are to be consolidated into one office. For example: The Bureau of Plant Industry, Soils and Agricultural Engineering and the various research divisions which make up this Bureau, will lose their identifying names when they cease to appear as administrative units, according to the proposed re-organization plan. In their stead will be "branches" within the Agricultural Research Service.

There will be only one Administrator and a Deputy Administrator for the Agricultural Research Service. Present bureau chiefs will be re-named "Directors." Division chiefs will be called "Section Chiefs."

Primary research groups will not be given identifying names. For example: All research on the various field crops will be carried on under the proposed "Field Crops Branch."

The business offices of the various bureaus will be consolidated into one large business office for the entire Agricultural Research Service. According to Dr. Byron T. Shaw, the proposed plan will promote greater efficiency by leaving the

(Continued On Page 45)

THE SUGAR CANE STRIKE

A STATEMENT TO THE PUBLIC

On October 12, 1953, a so-called "labor union" called a "strike" among sugar cane field workers in Louisiana. This strike was timed so as to come just after the start of the harvest, when a delay in harvest might spell disaster for the farmers. Various labor agitators have issued false and misleading statements concerning this situation, and these have been given wide publicity. These agitators are masters of the use of the "Big Lie"; some of their propaganda sounds as though it should bear the label "Manufactured in Moscow."

We believe that the public is entitled to know the *truth* about the "strike" and the people who caused it. Here it is:

The Issue

The "union" has demanded that sugar cane farmers recognize it as the collective bargaining agent of the agricultural labor employed on the farms. The sugar cane farmers at all time welcome discussion with their employees. However, the farmers have refused to deal with the "union" because: considering the Federal Sugar Act there is no need or room for collective bargaining in sugar cane farming; complete organization of the sugar cane farms and collective bargaining through any union would place in the hands of one man or a few men power to destroy, and would destroy, all sugar cane farmers and the entire Louisiana sugar industry; and the farmers will not deal with this partciular "union" *in any event.*

The Law

No law requires employers of agricultural labor to recognize a union as the bargaining agent of their agricultural workers. On the contrary, both the Federal Labor-Management Relations Act and the State Mediation Law expressly exclude such labor from coverage. The wisdom of such exclusion is obvious. Collective bargaining in agriculture would give a few the power to control the food supply of the nation, and thus control the nation itself. A widespread strike in agriculture would so adversely affect the public that the welfare of organized labor as a whole would be jeopardized by public reaction.

The Louisiana sugar cane industry is subject to almost complete regulation by the Federal Government under the Sugar Act. The Federal Government fixes the minimum wages and working conditions of agricultural employees on the sugar cane farms *and affords ample protection to these farm laborers by government investigation of complaints.* The Government issues its determination of minimum wages and working conditions each year after making extensive investigations and after a public hearing at which all interested parties are invited to testify. The Government fixes these rates at the highest level its impartial investigation discloses the average sugar cane farmer can afford to pay.

The Wage Determination also provides for increases in minimum pay geared to increases in the price of sugar. The sugarcane and sugar beet farmers are the only American farming interest whose wage rates and conditions are regulated by the Federal Government.

The People Involved

Henry E. Hasiwar (alias "Hank" Hasiwar) is a New York-born "labor leader" who came to Louisiana to try to "organize" Louisiana's

(Continued On Next Page)

agricultural labor for the National Agricultural Workers Union. He is presently under Federal Indictment for an alleged violation of the Federal Anti-Trust Laws. In his attempt to organize the Louisiana sugar cane field workers he has been assisted by various Louisianians, among them being Felix Jacob Dugas (alias "Cutsie" Dugas), of Paincourtville, Assumption Parish, La., a convicted bank-robber and ex-convict. The National Sharecroppers Fund, Inc., of New York, which has been labeled as a Communist front organization, is soliciting funds to support the efforts being made to unionize Louisiana sugar cane field workers.

The "union" makes varying claims of between 2000 and 3000 members in the Louisiana sugar area. The United States Department of Agriculture estimates there are 45,000 sugar cane field workers in Louisiana. By the use of impossible promises, outright lies, and intimidation, and by seeking to pit race against race, and class against class, these union agitators finally succeeded in getting some of their members to go on strike.

The union claims that it is fighting only the "large companies." This is a classic example of the "Big Lie." Some farmers having as few as two field workers have been struck. All sugar cane farmers, large and small, are threatened by the strike. The "union" has even tried to cause shut-downs in the sugar factories so as to prevent the grinding of the cane of all farmers, small and large. This is not a case of Big Labor vs. Big Business; this is a struggle for survival by *all* Cane farmers. The farmers know that union success would sound the doom of sugar cane farming in Louisiana. If the union could "win" in this harvesting season it could "win" in any harvesting season and the union bosses would have the farmers under their thumbs. It is obvious therefor that this is a struggle which the farmers *cannot* and *will not* lose.

The Strike: How Successful Is It?

The union has published outlandish claims as to its success to date. Rumors have been circulated that at any moment the farmers will submit to union dictatorship. Here is the truth! The strike *has* seriously endangered the harvesting of the crop, but the cane is being cut, all of the sugar mills are operating, and more and more workers are returning to their jobs, realizing that the union cannot carry out either its threats or its promises. The big farmers are helping the small farmers, and the small farmers are helping the larger operators. All farmers are united in their determination to save the crop from loss and their business from extinction. No matter how long striking workers stay away from their jobs, the major portion of the crop will be saved, and all that the union will have succeeded in doing will be to cause financial losses to the farmers and tremendous losses to the strikers, all of whom will lose wages and, perhaps, their jobs.

Conduct of the Strike

The union agitators, as might be expected, have used every device and scheme imaginable to attempt to keep the workers out on strike. The strikers in most areas are awakened early in the morning, herded like cattle into motor vehicles, and brought to meeting halls where they are kept all day to prevent any of them from changing their minds and going back to work. It is probable these people are subjected to "brain washing" in an effort to indoctrinate them with the idea they should stay away from their work. Strikers who resist this un-American treatment and who return to work are threatened with bodily harm.

The union agitators have employed a campaign of lying publicity.

They have even claimed that non-strikers are being forced to work at gunpoint by the farmers! This scurrilous falsehood is an insult to the intelligence of the citizens of this State. The union claims that the strike was brought on by mass discharges and evictions. This is another "Big Lie." There were no mass discharges or evictions prior to the uncalled-for strike; but the actions of the union agitators and their dupes may well lead to this regrettable end. Obviously, growers cannot continue to employ people who won't work, and the houses will be needed for people who will work.

The Future

From the present indications and from past performances, it appears that the union agitators are growing desperate. To what excesses their audacity will lead them we can only guess. But an informed and aroused public opinion may cause them to think twice before engaging in further violence and destruction of property. This is not just an abstract economic struggle between capital and labor. This is a matter in which every citizen of the State has a stake. Whether you are an employer or an employee, whether you are union or non-union, no matter what your race, creed or color, you are citizens of this State and you must, as citizens, be on the side of law and order. Whether you agree with the position of the growers or not, you must of necessity, agree that methods of force and violence have no place in this democracy. The acts of violence committed at Elizabeth which have brought shame on Louisiana must not be repeated in the sugar cane area. One "Elizabeth" is enough!

AMERICAN SUGAR CANE LEAGUE OF THE U.S.A., INC.
In Behalf of Its 7,000 Members

UP FRONT

(Continued From Page 36

en, and this advertisement has appeared in other newspapers throughout the sugar district. We are printing the entire text beginning on page 39.

The Union Oath

"I do solemnly swear or affirm on my honor as a member of the Union that I will abide by the constitution and by-laws now in effect or that may hereafter be adopted, and do all in my power to promote the best interest of the Union. I shall never by word or deed do anything that may be harmful to a fellow member. *I further promise to go to the aid of my fellow Uuion member in time of need, even at the risk of my life. I shall keep all the secrets of the Union even unto death* and I will consider this oath as binding on me outside the Union as within it. I pledge this as my honest and sincere obligation, so help me God."

That's the oath a field worker takes when he joins the National Agricultural Workers Union. The italics are ours. This thing sounds like one of those deep, dark secret clubs that they dream up in the comic books and would be laughable if the situation were not so serious. That "even unto death" has a very ominous sound and we wonder what secrets the union is harboring that are so hot that a man must swear that he will die rather than reveal them.

Federal Court Decision

The union filed a petition in the Federal District Court asking for an injunction to restrain sugar cane farmers from evicting workers from houses. The union attempted to use the Sugar Act as a basis for their petition. Federal Judge Herbert W. Christenberry dismissed the petition on the finding that the union's complaint did not state a claim on which

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SUGAR QUOTAS INCREASED

(A Government Release)

The U. S. Department of Agriculture announced an increase of 100,000 tons in sugar quotas for 1953 on October 13th. This action raised the total quotas for the year to 8,100,000 short tons, raw value. Of the increase, Cuba received 96,000 tons and the full-duty countries, 4,000 tons.

This action also increases the quantity within the quota for the full-duty countries that may be entered for direct-consumption from 35,115 to 36,475 short tons, raw value.

Distribution of sugar from January through September was approximately 128,000 tons higher than during the same period last year. Distribution for 1952 as a whole totaled 8,104,000 tons. According to trade reports stocks held by industrial users were increased significantly during the past two months in anticipation of a possible strike of dock workers. In the event industrial users decide to cut their stocks back again, distribution could decline during the remainder of the year as compared to the same period last year.

After giving effect to the increases, the quotas for the various areas are shown in the following table. These increases in quotas will be effective when Amendment 6 to Sugar Regulation 813 is published in the Federal Register.

BASIC SUGAR QUOTAS, DEFICIT PRORATIONS AND ADJUSTED QUOTAS FOR 1953
(short tons, raw value)

Production area	Basic quota	Proration of deficits	Adjusted quota
Domestic beet sugar	1,800,000	(100,000)	1,700,000*
Mainland cane sugar	500,00	9,760	509,760
Hawaii	1,052,000	20,536	1,072,536
Puerto Rico	1,080,000	21,083	1,101,083
Virgin Islands	12,000	234	12,234
Philippines	974,000	(100,000)	874,000*
Cuba	2,574,720	144,387	2,719,107
Other foreign areas:			
Dominican Republic	26,641	2,062	28,703
El Salvador	3,992	(3,992)	0*
Haiti	2,578	199	2,777
Mexico	11,046	855	11,901
Nicaragua	7,550	584	8,134
Peru	50,109	3,877	53,986
Not prorated	5,364	415	5,779
Subtotal	107,280		111,280
Total	8,100,000		8,100,000

* Regardless of deficit prorations, by reason of Section 204 (c) of the act, each production area retains its basic quota.

the Federal Court could grant relief.

During the course of the hearing the opinion was expressed that free housing and other perquisites are part of the wages paid a worker for *working* and that if he refuses to work he forfeits the right to these perquisites.

This is a terrible thing that the union is doing to the field workers, many of whom have absolutely no idea what the strike is all about. They have first been fooled into joining the union and signing the pledge and now a lot of them are just plain scared. Go easy with them. Use your own judgment and take action against those whom you would no longer want to live on your farm under any circumstances but give the others a chance to live in peace again in their homes. They will be happy, and so will you.

Crop Progress Report

Mr. L. A. Mullins, Chairman of the State P.M.A. Committee, has advised us that up to October 24th 1,317,906 tons of cane had been ground by the Louisiana sugar factories and that 192,528,466 pounds

SUGAR MARKET STATISTICS THROUGH OCTOBER 26, 1953

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.35	6.42	6.62
QUOTA RAWS DELIVERED NEW ORLEANS	6.31	6.41	6.56
WORLD SPOT RAWS (In Cuba)	3.08	3.25	4.00

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Jan.	1954 March	May	July
Today	5.60**	5.47	5.52	5.62
1 Month Ago	5.70**	5.53	5.59	5.69
1 Year Ago	5.70**	5.46	5.53	5.68

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	167,315 bags	1,643,742 bags
Godchaux	57,655 bags	1,557,823 bags
Colonial	37,486 bags	1,235,435 bags
Henderson	20,000 bags	471,615 bags
Southdown	None	250,295 bags
South Coast	None	598,590 bags
Sterling	None	None
Supreme	None	728,701 bags
Totals	282,456 bags	6,486,201 bags

of actual sugar had been produced.

This compares with a production to October 25th last year of 152,915,189 pounds of sugar from 1,146,047 tons of cane.

Definition of Marketing

Messrs. W. S. Chadwick and H. C. Vacarro will represent the American Sugar Cane League in Washington on November 17th and 18th when Sugar Regulation 815, the regulation that defines what constitutes the "marketing" of sugar, will be discussed.

Government marketing allotments have made it very necessary that producers know when sugar is considered by the Sugar Branch to have been actually marketed. The meeting in Washington has been called to discuss and make recommendations concerning the wording of Sugar Regulation 815, which is titled "Definition of Marketing".

Funds

The Louisiana Farm Council met in Baton Rouge on October 15th and voted unanimously to recommend to the State Legislature that funds needed to expand the Louisiana State University's cane breeding work be included in the agricultural budget.

Mr. L. A. Borne, former President of the American Sugar Cane League, is the Chairman of the Council and Mr. J. P. Duhe, your present President, is a member. Mr. Marcel J. Voorhies also attended the meeting.

The Louisiana Farm Council is composed of the heads of all farm organizations in the State.

Honorary Life Members

It is with a great deal of pleasure that we report the selection by the Executive Committee of the American Sugar Cane League of Dr. E. V. Abbott and Dr. S. J. P. Chilton as Life Members of the American Sugar Cane League.

We know that every sugar cane farmer in the State is aware of the parts that Dr. Abbott and Dr. Chilton have played in developing new cane varieties for our fields and

(Continued On Next Page)

PUBLIC HEARING ON SUGAR REQUIREMENTS FOR 1954 ANNOUNCED

On October 19th the U. S. Department of Agriculture announced that a public hearing will be held on November 16, 1953, in Washington, D. C., on sugar requirements for 1954. The hearing will be held in the Thomas Jefferson Memorial Auditorium, South Building, U. S. Department of Agriculture, beginning at 9:30 a.m.

The hearing will afford all interested persons an opportunity to present data, views, or arguments with respect to sugar requirements and the establishment of sugar quotas for the continental United States for the calendar year 1954. The principal matters for consideration will be (1) the manner of determining deficiencies or surpluses in inventories of sugar, (2) the effect upon requirements of various changes in demand conditions, (3) the effect of the prospective 1954 level and trend of consumer purchasing power upon sugar requirements, (4) the manner in which the relationship between the wholesale price of refined sugar and the general cost of living in the United States should be considered, and (5) the relative importance of the foregoing factors.

The notice also invites written statements to be submitted to the Director of the Sugar Branch, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C., on the matters considered in the hearing. In addition, such written statements may include data, views, and arguments regarding (1) sugar requirements and quotas for local consumption in Hawaii and Puerto Rico for the calendar year 1954, and (2) the amount by which any area will be unable to market the quota for such area in 1954 and the reallotment of such deficit.

Written data, views, or arguments must be submitted in duplicate and must be received by November 27, 1953.

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protecting our industry from crop failures.

The Life Membership award is the highest honor that the American Sugar Cane League can bestow. It is the "Hall of Fame" of the Louisiana Sugar Industry and Dr. Abbott and Dr. Chilton richly deserve the right to be included in the select company of eleven other distinguished gentlemen who have received this honor during the 31 years of the League's existence. To them we extend our hearty congratulations.

Freight Rates

The railroads are continuing their efforts to raise freight rates on intrastate freight shipments and the Interstate Commerce Commission has named November 30th as the day on which oral arguments will be held in Washington to determine whether the rates on sugar, sugarcane and molasses should be increased. This time the railroads will seek increases totaling 24.2% on sugar and sugarcane and 15% on molasses. Your League will oppose, as it has always opposed, any increase in rail rates and is preparing its case for the coming session before the Interstate Commerce Commission.

The hearing is on an appeal by the railroads that the Interstate Commerce Commission set aside last year's ruling by the Louisiana Public Service Commission that the freight rate increases asked by the railroads were not justified. This means that representatives of the Louisiana Public Service Commission will also be in Washington on November 20th to oppose the railroads. Representatives of the New Orleans Traffic & Transportation Bureau will assist your League's

attorney in presenting our case.

Blackstrap Molasses

Your League is continuing its efforts to promote the use of Blackstrap Molasses among the cattlemen and dairymen in the states adjacent to us and President Duhe sent the following letter to about 3,000 dairy farmers on October 19th:

"Blackstrap molasses is cheap again this fall. You can produce milk at less cost by beginning to feed molasses now.

Dr. J. E. Frye, Jr., Head of the L. S. U. Dairy Department, says:

'The following table may be used as a guide in determining whether or not molasses would be a good buy:

CORN AND BLACKSTRAP MOLASSES PRICES COMPARED

If a Bushel of Corn is Selling for	You Can Afford to Pay the Following Prices for a Gallon of Molasses
$ .80	12.3 cents
1.00	15.4 cents
1.10	16.9 cents
1.25	19.2 cents
1.40	21.5 cents
1.50	23.1 cents

Dr. Frye also says: 'Molasses may be fed as a part of the grain mixture, by pouring on roughages, free choice in open troughs or self-feeders, as an ammoniated compound or mixed with urea. Molasses is a high-energy feed which is very palatable, laxative in effect and practically free of digestible protein. One bushel of corn is equivalent in energy value to 6½ gallons of molasses!

'Calves may consume small quantities of molasses to an advantage. Milking cows seem to utilize molasses more efficiently when fed at levels of 3 to 4 lbs. per day or when constituting about 10% of the concentrate mixture.'

Make your arrangements now to start feeding molasses immediately."

The following letter mailed to some 4,000 cattle farmers on the same day said:

"Blackstrap molasses is cheap again this fall. Molasses and protein, such as cottonseed meal or cake, will do a good job of carrying your cattle through the winter.

Of course, cattle need plenty of hay and roughage, too. Molasses is an appetizer and will make cattle eat more roughage. If your hay is poor quality, pour some molasses on it and notice how your cattle go for it.

You can also feed molasses in open troughs or other containers. Feed about 1/3 to 1/2 gallon of molasses per head.

Molasses is rich in carbohydrates and contains vitamins and such essential minerals as iron and calcium. When you feed molasses you can see that your cattle are healthier.

Make your arrangements now to start feeding molasses immediately."

IN WASHINGTON

(Continued From Page 38)

scientists free from business administration and budget worries and consequently with more time to devote to scientific research. Secretary Benson emphasizes the "service" goal of the re-organization plan.

The plan has been endorsed by such re-organization experts as former President Herbert Hoover, and supposedly by members of Congress, the National Agricultural Advisory Commission, representatives of the Land Grant Colleges, farm organizataion leaders, and the President's Committee, on re-organization of the Government. However, inside the Department, you can count on your fingers, and you don't have to use both hands, those who register enthusiasm for the forthcoming changes. Some are afraid the plan *will* work; others are afraid it won't!

The bridge over Independence Avenue which connects the South Building with the Administration Building, used by the bureau chiefs and other department heads enroute to and from the Secretary's Office, is now called "the bridge of sighs."

Marketing Hearing Postponed

The proposed USDA hearing on 1954 mainland cane marketing al-

lotments which had been tentatively scheduled for mid-November has been definitely postponed until February.

Instead of a hearing in November, the Sugar Branch has decided to send letters to all processors setting forth the Department's ideas on marketing and a proposed formula for mill allotments for 1954.

Each processor will be asked to sign a stipulation that during the first three months of 1954 he will not market an amount of sugar greater than, say, 50 or 75 percent of his 1953 marketing allotment, pending the issuance of final 1954 marketing allotments.

The present plan is to hold a hearing in New Orleans sometime in February so that the final marketing allotments will be issued about the first of March.

IN THE FIELD

(Continued From Page 37)

Because of the late start on the construction of this unit and the difficulty encountered in heat treating and maintain temperature in a product which had never been treated with hot air before, the unit is still operating long after the normal time of planting. Much of the cane treated has been planted in soil which was extremely dry. It is hoped that the rains of the past week were in time to allow good germination. The unit was not able to visit all the Secondary Stations originally selected because of either labor shortage once grinding started or the fact that some of the places were affected by the strike. The League will continue treating as long as Secondary Stations can afford to take labor and time from their harvesting operations. It is hoped that the treatment applied will successfully kill the virus in order that a clean supply of seed may be established from which an increase can be made for future distribution.

WEEKLY AVERAGE PRICES

Weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1953-54 pricing period have been as follows:

Week ending October 15, 1953
Raws 6.40, Blackstrap 11.00 cents.

Week ending October 22, 1953
Raws 6.35, Blackstrap 11.00 cents.

Week ending October 29, 1953
Raws 6.34, Blackstrap 10.46 cents.

It was not until a cigaret manufacturer started adding about ten per cent sugar to tobacco that cigarets became popular. In curing tobacco, almost all of the native sugar in the leaf is removed. The job that sugar does in tobacco is to enhance moisture and serve as combustible material. In the process, it blends proteins and chemicals in tobacco as they burn so that a mild and pleasant acid smoke can be drawn into the mouth. At the light end, the smoke is alkaline, harsh and irritating.

* * *

As high as 20 per cent of the juice of the full-grown cane plant is sugar.

* * *

Familiar sugar is available for energy quicker than any other common food.

* * *

The first written record of sugar is made in the Old Testament, Book of Ezekiel.

* * *

Seventy-five times more sugar is produced than any other pure organic chemical.

MOORE STEEL, Inc.
Steel Warehouse
EVERYTHING IN STEEL
400 Thalia St. New Orleans, La.
TU 3171

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946

(Title 39, United States Code, Section 233)

Of The Sugar Bulletin, published semi-monthly at New Orleans, La., for October 1, 1953, State of Louisiana, Parish of Orleans.

Before me, a Notary Public in and for the State and parish aforesaid, personally appeared Gilbert J. Durbin, who, having been duly sworn the Editor of the Sugar Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit.

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; Editor, Gilbert J. Durbin, New Orleans, La.; Managing Editor, Andrew W. Dykers; Business Manager, none.

2. That the owner is the American Sugar Cane League of the U. S. A., Inc., New Orleans, La.; J. P. Duhe, Jeanerette, La., President; F. A. Graugnard, Jr., St. James, La., Vice President; J. J. Shaffer, Ellendale, La., Secretary; T. M. Barker, Lockport, La., Treasurer.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are none.

GILBERT J. DURBIN,
Editor.

Sworn to and subscribed before me this 1st day of October, 1953.

BRITTMAR P. LANDRY,
Notary Public.

(Seal)

(My commission expires at death.)

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New Orleans, La.

STATE AGRICULTURAL CREDIT CORP., INC.
837 Whitney Building
New Orleans, La.

WHITNEY NATIONAL BANK
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ON THE WEATHER

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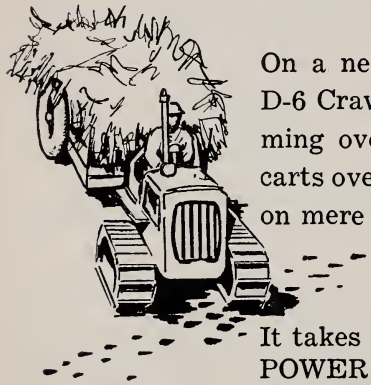

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THE SUGAR BULLETIN

. 32—No. 4 NOVEMBER 15, 1953

icial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

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The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by A. W. DYKERS

The Sugar Act

About this time one year ago many thousands of people in the Louisiana sugar district went to the polls to cast their vote for a Republican candidate to be the President of the United States. A few weeks before the election General Eisenhower made a speech in New Orleans in which he said: "By law the Secretary of Agriculture is responsible for the fair administration of the Act (Sugar Act). How fairly has he protected the welfare of your sugar farmers and farm workers? While the price of the sugar they work so hard to grow and process has fallen the cost of everything they had to buy had risen fantastically. They, like all the rest of us, have been caught in this squeeze".

The price of raw sugar in New Orleans when General Eisenhower made this statement was $6.57 a hundred pounds. At this writing the price of sugar is $6.01 a hundred pounds. This is a difference of fifty-six cents a hundred pounds on the wrong side of the ledger.

The American Sugar Cane League, of course, takes no part in partisan politics. The writer, however, is one of the many thousands of Democrats in the Louisiana sugar business who voted for General Eisenhower. We voted for the General because we wanted a change.

Along with a lot of other things, we were fed up with the way the Sugar Act was being administered. Now, one year later, we are still fed up with the way the Sugar Act is being administered. The only change that we have had has been a change in the price. It is down more than 50 points!

There has been no change in the executive personnel of the Sugar Branch and there has been no change in the general administration of the Sugar Act. The same old pattern of increasing quotas and reallocating deficits, at times when the Louisiana sugar industry will suffer most, is still being pursued, and we are in a much worse position price-wise this season than we were last season.

We hesitate to believe that those who administer the Sugar Act are using the power granted to them by the Secretary of Agriculture to cripple the domestic cane sugar industry, but the records seem to indicate that this is what is happening. The reallocation of the beet deficit on November 6th dropped the price of raw sugar 27 points in four days.

The Strike

The strike of sugar cane field workers is over. The guiding heads of Sugar Workers Local 317 decided to give up the ghost officially on Monday, November 10th but by that time most of the workers had discovered that they had been sold a bill of goods by the labor organizers and most of those whom the farmers wanted back were already on the job. The Union announced to the press that the strike was lost because the lower courts "adopted the position of the American Sugar

(Continued on page 60)

IN THE FIELD WITH LLOYD LAUDEN

Milling and Processing Studies

The League has had a certain amount of difficulty providing samples to the Audubon Sugar Factory for the milling and processing experiments this season because certain samples were grown on plantations which were affected by the strike. Now that the strike is over, the samples are being delivered on schedule.

This experiment is a joint project between the League and the United States Department of Agriculture, Agricultural Research Administration, Bureau of Agricultural and Industrial Chemistry. Dr. L. F. Martin, head of the Sugar Cane Products Division, Southern Regional Research Laboratory is director of this experiment and is ably assisted by Mr. W. F. Guilbeau. The varieties which are being studied this year for their milling and processing qualities are C.P. 44-101, C.P. 44-154, C.P. 44-155, C.P. 45-184, C.P. 47-193, C.P. 48-103 and NCo 310. The varieties C.P. 44-101, C.P. 44-154 and C.P. 44-155 are released canes which are still being studied. These canes also offer a standard for comparing the other mentioned which are unreleased canes and not in commercial production.

This project, with its proposed expansion will certainly assist the scientists in charge of cane breeding to develop a cane which is far superior to any we now have.

Below are the minutes of a meeting which discuss this subject more fully.

A sub-committee of the Contact Committee of the American Sugar Cane League met with the Scientists of the L. S. U., the U. S. D. A. Sugar Station and the Southern Regional Laboratory on October 6 to discuss the approaching cane breeding season.

Present were Messrs: Stephen C. Munson, Chairman, E. V. Abbott, Cecil H. Wadleigh, S. J. P. Chilton, Carl O. Grassl, L. F. Martin, W. F. Guilbeau, Irwin Forbes, Elliott Jones, Arthur Keller, Marcel J. Voorhies, and Lloyd L. Lauden.

The meeting opened by the Chairman asking Dr. Abbott and Dr. Chilton to give their summary reports on selections made for the past several years.

In the discussion the number of selfed plants showing in the seedlings planted was discussed.

The poly-cross method was discussed both by Dr. Chilton and Dr. Abbott. Both Dr. Chilton and Dr. Abbott felt that more guaranteed crossed seed produced would benefit the program, by reducing the total number of seedlings now necessarily carried. To guarantee more crossed seed could possibly mean a greater percentage of selections or a reduction in the total number now combed to reach the present percentage of selection.

Dr. Chilton asked if some possible method could be devised to insure canes used as females remaining females and suggested the atomizer method of wetting down the anthers. Other methods of emasculating were discussed. Mr. Grassl mentioned that the atomizer method was a

(Continued on page 58)

IN WASHINGTON WITH JOE FERRIS

Statement on behalf of Growers and Processors of Sugarcane in the Mainland Cane Area with respect to 1954 Sugar Consumption Requirements to be presented at the Public Hearing, November 16, 1953, U. S. Department of Agriculture, Washington, D. C.

Mr. Presiding Officer and Members of the Hearing Panel:

My name is Josiah Ferris. I am Vice President of the American Sugar Cane League of the U. S. A. I appear as spokesman for more than 8,000 growers and processors of sugarcane in Louisiana and Florida.

Every grower of sugarcane and every processor in the Mainland Cane Sugar Area is gravely concerned about the future of the domestic sugar industry. Their special concern at this hearing is the possible effect of the 1954 consumptive estimate on the price of sugar. The reasons for their concern are clearly evident, but I shall discuss them briefly for the purposes of this hearing.

The sugarcane farmers and processors of the Mainland Cane Area challenge the Department's policy of maintaining a price level below that envisioned by the Sugar Act — a policy which can only result in the ultimate destruction of the domestic sugar producing industry.

It is obvious that farmers operating in a "controlled" market cannot survive when they are denied the temporary peak prices resulting from supply and demand conditions and, on the other hand, are subjected to a policy which forces sugar prices to follow the downward trend of other agricultural commodities. The sugarcane farmers in the Mainland area feel that whereas sugar was not permitted to attain the prices indicated in the Sugar Act when prices of all other agricultural commodities were rising, it is most unfair to force sugar to follow the downward trend of other commodities.

The Department always has acted promptly to prevent the price of sugar from advancing beyond what it considered reasonable levels and the domestic sugarcane growers and processors have never questioned the wisdom of such action since it is in accord with the spirit and letter of the Sugar Act. However, Mainland Cane farmers deplore the Department's lack of interest when the market goes into a tailspin like it did in the past two weeks.

Whenever the market gives an indication of advancing beyond a $6.40 price for raw sugar, the apparent level which the Department has selected for its "stabilization" activities, a quota adjustment is made instanter. Back in April, and again in July, when raw sugar advanced beyond the $6.40 figure, the Department immediately increased quotas. Such action on the part of the government leads to the obvious conclusion that the Department intends to continue its long-time, unfortunate policy of giving little or

(Continued on next page)

DEFICIT OF 80,000 TONS IN QUOTA FOR DOMESTIC BEET SUGAR AREA PRORATED

(*Official Release*)

On November 6th the U. S. Department of Agriculture announced the proration of an additional deficit of 80,000 short tons, raw value, in the quota for the domestic beet sugar area. A deficit of 100,000 tons had previously been prorated. The increases in quotas for other areas resulting from this proration are: Mainland Cane Sugar Area, 7,531 tons; Hawaii, 15,846 tons; Puerto Rico, 16,268 tons, Virgin Islands, 181 tons; and Cuba, 40,174 tons.

It is believed that the domestic beet sugar area this year will be unable to market more than 1,620,000 tons, the amount of the new adjusted quota. In order for this quotas to be filled, marketings during November and December will have to total 255,000 tons, whereas average marketings for these two months during the years 1948-52 were only 227,000.

The basic and adjusted quotas for the various areas are shown in the accompanying table. The increases in quotas will be effective when Amendment 7 to Sugar Regulation 813 is published in the Federal Register.

Basic Sugar Quotas, Deficit Prorations, and Adjusted Quotas for 1953
(short tons, raw value)

Production area	Basic quota	Proration of deficits	Adjusted quota
Domestic beet sugar	1,800,000	(180,000)	1,620,000*
Mainland cane sugar	500,000	17,291	517,291
Hawaii	1,052,000	36,382	1,088,382
Puerto Rico	1,080,000	37,351	1,117,351
Virgin Islands	12,000	415	12,415
Philippines'	974,000	(100,000)	874,000*
Cuba	2,574,720	184,561	2,759,281
Other foreign areas:			
Dominican Republic	26,641	2,062	28,703
El Salvador	3,992	(3,992)	0*
Haiti	2,578	199	2,777
Mexico	11,046	855	11,901
Nicaragua	7,550	584	8,134
Peru	50,109	3,877	53,986
Not prorated	5,364	415	5,779
Subtotal	107,280		111,280
Total	8,100,000		8,100,000

* Regardless of deficit prorations, by reason of Section 204 (c) of the act, each production area retains its basic quota.

IN WASHINGTON

no weight to the provisions of Section 201 of the Sugar Act. That Section of the Act clearly indicates that raw sugar should sell for approximately $7.50 per hundred pounds in order to maintain the proper relationship between the general cost-of-living and the price of sugar. No Secretary of Agriculture has ever permitted sugar prices to achieve a "fair relationship" with prices of other agriculture commodities. During boom periods when agricultural prices of other commodities have risen well above normal levels, the price of sugar has been rigidly controlled by the Department. It is manifestly unjust for the Department to take the position now, when the price level of other agricultural commodities is

PRESIDENT DUHE WRITES SECRETARY BENSON

November 12, 1953

The Honorable Ezra T Benson
Secretary of Agriculture
Twelfth and Fourteenth Streets
Washington, D. C.

My dear Mr. Secretary:

The recent drastic reduction in the raw sugar spot price is of great concern to the Louisiana sugar industry. We are fearful that because of the many other farm problems you have not found time to supervise your administrators of the Sugar Act of 1948, as amended. We believe the present sugar situation requires your immediate personal attention.

When you became Secretary of Agriculture we thought there would be an improvement in the administration of the Sugar Act, but there has been no improvement. The same old policy of increasing quotas and reallocating deficits at times when such actions have the greatest depressing effect on sugar prices has continued under your administration.

The Sugar Act provides a means for you to assure sugar cane and sugar beet farmers fair prices for their products. The Act also furnishes a guide for determining a fair price for sugar.

The present price of raw sugar is 20 per cent below the fair price defined in the Act, and is eight per cent below the low price which President Eisenhower deplored during his campaign for the Presidency when he made the following statement regarding the welfare of sugar farmers and farm workers: "While the price of sugar they work so hard to grow and process has fallen the cost of everything they had to buy had risen fantastically." The President's statement is just as applicable today as it was during his campaign.

You have full legal authority in the case of sugar cane and sugar beets to demonstrate that you are sincere in your expressed desire for farmers to receive fair prices for their products. You have the legal and moral obligation to move swiftly in correcting the demoralized situation in the sugar market. Inaction on your part would most certainly cause more farmers to think you favor low prices for farm products.

With best wishes, I am

Respectfully yours,
AMERICAN SUGAR CANE
LEAGUE OF THE USA, INC.
J. P. Duhe, *President.*

---

declining, that the price of sugar should likewise be depressed.

Administrators of the Act overlook the fact that for many years the price of sugar has been less than that of any other comparable agricultural commodity although the cost of producing sugar from both sugarcane and sugar beets has increased as rapidly as the cost of producing other agricultural commodities. Their entire energy has been devoted to the elimination of the peaks in the market price of sugar—but the valleys still remain.

For instance, seven years ago, when wartime price controls were in effect, the price of raw sugar was $6.32 per hundred pounds. Last week, the price was $6.05, and offshore raw sugar for arrival after January 1st is being offered at $5.95. During those seven years the cost of every article essential to the production of sugar increased—while the price of sugar declined.

How can an industry remain solvent over a period of years, when it is forced to operate under this type of controlled market?

Every time the question of the tragically low price of sugar is brought to the attention of the Administrators of the Sugar Act, they hasten to point out that a $6.40

(Continued on next page)

price for raw sugar will return 90 percent or better of parity to sugarcane growers. Any student of the Sugar Act knows that "parity" is not mentioned in it. Section 201 of the Sugar Act is sufficient unto itself so far as the price of sugar is concerned. The parity formula that the Department uses for sugarcane is extremely unfair when compared with the parity formula used for basic commodities such as cotton, corn and wheat.

For example, the parity price of cotton for November 15, 1951 was 34.10¢ per pound, and on June 15, 1953, the parity was 33.98¢. On November 15, 1951, the parity price for sugarcane was $9.27 per ton, and on June 15, 1953, the parity was $8.14 per ton. Between November 15, 1951 and June 15, 1953, the parity price for cotton remained about the same. But the so-called "parity" price for sugarcane dropped one dollar and thirteen cents—more than 12 percent! If the basic commodity parity formula were applied to sugarcane, the parity price would exceed $10.00 per ton!

Sugar is cheap—too cheap—when the price is compared with that of other leading essential commodities. In 1914 it required 15.9 minutes of time of the average American wage earner to earn one pound of sugar, while in 1952 it required 3.7 minutes to earn this same pound. For a dozen of eggs, it required the labor of the average workman for 26 minutes, while in 1952 it still required 23 minutes. A pound of round steak in 1914 required 62 minutes and in 1952 it still required 43 minutes.

The price formula in Section 201 of the Sugar Act is crystal clear. That formula indicates that raw sugar should sell for approximately $7.50 per hundred pounds, and the wholesale price of refined sugar should be fractionally above $10.00 in order to maintain the proper relationship between the general cost-of-living and the price of sugar.

The consumer's index shows the cost-of-living has declined since the first of the year, but consumer purchasing power has not declined any appreciable amount. The consumer is well able to buy sugar and to pay a penny a pound more for it than the current market price. A startling example of this is the fact that synthetic sweeteners without any food value, which are now flooding the market, are selling at a premium, in some instances, of 100 percent over sugar.

A survey of leading stores where sugar is sold will disclose that the average consumer does not even ask the price of sugar but takes for granted the undeniable fact that it is one of the cheapest articles of food available to man, and buys it without question. Even if the price were increased a penny a pound, sugar would still be one of the cheapest and best foods available. That one cent a pound, in some instances, might be the means of preserving an important segment of the domestic sugar industry—and it would cost the average consumer less than a dollar a year!

The Department's experiments with a "negative allowance as a price stimulus" have been only partially successful. We remind the Secretary that at the beginning of our harvest season the weekly average price of raw sugar was $6.40 per hundred pounds, and at the end of the fourth week of our harvest season, the average price had declined to $6.35 per hundred pounds. Then, on November 6th came the reallocation of an 80,000-ton beet deficit which knocked the feeble props from under the sagging market with such tragic results. In a matter of hours the spot price, duty paid, fell from $6.34 to $6.10 per hundred pounds. On November 10th, off-shore sugar for delivery during January was offered at $5.95 per hundred pounds.

We hate to contemplate the predicament of sugarcane growers in February and March unless the Sec-

retary does take prompt action to stop the price decline and improve the market during our marketing period. Past Administrators of the Sugar Act always have waited too long, and then done too little. Consequently, their efforts, though well meant, were ineffective. We hope the present Administrator will be an exception and that he will promptly and effectively take measures necessary to fairly and equitably maintain the domestic sugar industry. One thing he could do which might stop the drastic decline of the market would be to announce the 1954 quota just as soon after this Hearing as is physically possible.

We urge the Secretary to use a "negative allowance" in his consumptive estimate for 1954, but unless the "negative allowance" is large enough and is released in the proper amounts at the psychological time, along with appropriate public statements, it can never be completely successful. When the Secretary makes a quota adjustment, often it is necessary to wait for several days to get the "Statement of Bases and Considerations" which led the Secretary to make the quota increases. In order to prevent misinterpretation by the trade and misunderstanding by the general public which could in the future, as it has in the past, cause a drastic market decline, we believe the Secretary should issue the notice of the quota change and the "Statement of Bases and Considerations" simultaneously.

For the past several years, the Mainland Cane Area has made earnest pleas to the Secretary to utilize to a greater extent his vast resources for the dissemination of information with respect to sugar. The general public, including the sugar trade, and the domestic producers of cane and beet sugar, are often only partially informed as to the objectives of the Department, particularly with respect to sugar prices, because of its failure to keep the public promptly, clearly, and fully informed.

We firmly believe that most of the difficulties which sometimes arise between the Department, the domestic sugar industry and the consuming public, could and would be cleared up through a better mutual understanding of the problems of each. We will gladly and wholeheartedly cooperate with the Department, the other domestic sugar producing areas, and our best customers, the industrial users of sugar, to achieve that worthwhile goal.

Another most important thing the Secretary should do to prevent a recurrence of the recent market collapse is to use the services of eminently qualified sugar market authorities as consultants before making quota adjustments. There are a number of outstanding individuals of the highest integrity who would gladly confer with the Secretary and his assistants and give them the benefit of the expert market advice so obviously needed by the Department. Year after year, time after time, the same mistakes have been made with the same disastrous results. Any student of the sugar market could have forecast what happened when the Department made its ill-timed, unfortunate reallocation of the 80,000-ton beet deficit on November 6th. In practically every quota adjustment made during the last five years, the adjustment was either too small, too large, or was made at the wrong time, and the destruction of the market which invariably resulted apparently came as a great surprise to the people in the Department. We earnestly recommend that the Secretary seek advice from competent market authorities before he makes any quota adjustment.

Mr. Presiding Officer and Members of the Hearing Panel, the Mainland Cane Area's brief to the Secretary is summarized as follows. We ask the Secretary to

1. Adhere to the price formula in the Sugar Act.

(Continued on next page)

2. Remember that the word "parity" is not in the Sugar Act.
3. Announce the 1954 consumptive estimate as promptly as possible.
4. Use a "negative allowance as a price stimulus" in the 1954 consumptive estimate.
5. Release "Statement of Bases and Considerations" and the announcement of quota changes simultaneously.
6. Seek advice from competent sugar market authorities before making any quota adjustments.

IN THE FIELD

(Continued from page 52)

good suggestion but this would require much time. Mr. Munson asked Dr. Wadleigh if photo period work would be done at Canal Point, Florida. Dr. Wadleigh felt that because of the short time left that no photo period work would be done this year, but plans would be under way for next year.

Dr. Abbott mentioned that the seedling plots contained a large number of seedlings which were 36-105 selfs.

Mr. Munson mentioned that he felt that 36-105 was a most undesirable cane. Mr. Munson commented after the meeting that many suckers of 36-105 never matured therefore the purity was lowered. He also indicated that because of this and the bad qualities of the juice of this variety that similar varieties not be considered for the future.

Dr. Wadleigh told the Committee that the U. S. D. A. had recently hired a man to do basic research on cane breeding at Beltsville for the Louisiana, Florida, and Hawaiian sugar industry and another man would be available this year to assist in the cane breeding program at Canal Point.

Dr. Wadleigh brought up the $5,000 that had been originally used to assist in the breeding program at Canal Point Florida. He mentioned that the U. S. D. A. should be allowed to keep $1,000 and the remaining $4,000 be used at Grande Isle or elsewhere in Louisiana.

Dr. Wadleigh told of a planned cooperative project between the U. S. D. A. and L. S. U. by the U. S. D. A. making available to Dr. Chilton a Graduate Fellowship.

Techniques of Breeding were discussed. It was agreed that both the State cane breeding station and the Government cane breeding station would make basic studies on flowering and techniques of flowering. It was also decided that the scientists working on breeding at the two stations would get together at a later date and decide the specific crosses to be made this year.

The afternoon session was spent in discussion of the work being carried on jointly by the stations and the Southern Regional Laboratory.

Dr. Martin agreed to write a summary of the discussion relative to the prospective expansion of the milling and clarification project.

Attached to the minutes is the text of the discussion as written by Dr. Martin.

Notes on Meeting of the Subcommittee of the Contact Committee, American Sugar Cane League, Tuesday, October 6, 1953 at Baton Rouge, Louisiana

The afternoon session reviewed research on the milling and processing of new sugarcane varieties, and considered possibilities for expanding this work to provide information required for a more effective breeding and selection program. Dr. Arthur Keller, L. S. U. joined the group for this session to discuss the milling work, and Dr. Martin reviewed the pilot plant clarification and processing experiments, as well as chemical research that has been started to determine the composition of juice and its relation to processing quality of the different varieties tested. Dr. Wad-

leigh discussed the value and importance of this chemical work, pointing out the need for an inventory of the substances present in sugarcane to serve as a guide in early selection of canes having good processing, as well as agronomic qualities.

Milling and processing of two-ton samples of cane during the past three seasons has shown that results can be duplicated with reasonable accuracy and that major differences in efficiency of grinding or clarification are found to be fairly consistent for the different varieties, from season to season as well as in duplicate tests on plant or stubble cane. It requires about 8 years from the time a new selection is designated for field testing until it can be considered for commercial use. The pilot plant experiments on 2-ton samples can be carried out only when a new variety has reached the secondary stations, two or three years before they are released. While this information is extremely useful, it tells only how each variety may be expected to behave in the factories without providing basic knowledge of the dependence of milling and processing quality upon chemical composition. It is this knowledge in particular which would be most useful in guiding the selection of new canes with good processing characteristics.

Dr. Martin reported that it had been possible to accomplish a limited amount of chemical research incidental to the pilot plant experimental work using samples of juices of the different varieties tested which were preserved by freezing and drying the juice solids promptly. This has enabled the chemists to isolate and identify several organic acids that were not previously known to be present in the cane. Of greater importance, this technique has made it possible to carry out complete, quantitative analyses of the juice solids for all of the simple organic acids that are important in the life processes of the plant. Data on several varieties showed that C.P. 44-101 has a markedly lower amount of all of these acids present in its juice, and that in the case of plant and stubble canes the concentrations are almost exactly the same. This is an example of the type of chemical composition data that should be obtained for all of the different classes of constituents in the material handled by the factories.

Dr. Wadleigh emphasized the value of such information to plant breeders, provided that the data on composition can be correlated with known milling and processing characteristics of the canes studied. The end result of such a study would make it possible to analyze juice from a few stalks of cane within the first year or two after a selection is made and use this as a basis for predicting its ultimate value for sugar manufacture if it passes the agronomic field test. He said that such information is urgently needed and can be put to use as fast as it is obtained, and offered all possible cooperation in providing plant material for the chemical composition studies. He further pointed out that such basic information is of value and can be used to advantage in breeding canes for Florida, Puerto Rico, Hawaii, and other areas as well as Louisiana.

Additional support will have to be obtained for this larger program of research and, in fact, increased funds for the program will be necessary if the pilot plant milling and processing tests are to be continued beyond the present 1953 grinding season. Professor Keller reported on the development of a small scale milling test under a contract which terminates at the end of the present season. Means of obtaining the required support and expanding the program were discussed. In closing the meeting, Mr. Munson, as Chairman, Expressed appreciation of the Committee and of the League for the fine cooperation of all of the

(Continued on next page)

Federal, State, and Industry participants in every phase of this research seeking to provide better canes and establish the economic future of the Louisiana cane sugar industry.

UP FRONT

(Continued from page 51)

Cane League, making it impossible to maintain an effective strike", which we think, is all that has to be said to show how effectively your League combated this abortive attempt by outsiders to drive a wedge between you and the people who work for you.

There are those who think that the decisive licking the Union has taken will write *finis* to Agricultural Workers Union activities in the Louisiana cane fields. This, however, seems too good to be true. We note that Henry (alias Hank) Hasiwar has stated that the union will appeal to the U. S. Supreme Court to reverse the decisions of the lower courts, and this looks like the ground work for another "organizing" attempt by his union at some later date.

National Prominence

The "strike" attained national prominence and the *St. Louis Post Dispatch,* the *Pittsburgh Courier,* and the *New York Post* all had special staff writers here to cover the developments. *Time Magazine* carried a report which they titled "Cane Mutiny" and Mr. C. A. Duplantis, Jr., of Franklin, La., decided that this should be answered.

On November 2nd Mr. Duplantis wrote the editor of *Time* a letter and we are quoting three paragraphs from this below.

"There are 45,000 workers in the Louisiana Sugar Cane Industry. Where will they go? Surely, not to the cotton farm with the Cotton Picker scattering labor to the cities every day.

"It behooves me to look upon my urban brother with contempt for his judgment. The first thing I hear him complain about is the cost of his groceries. Not too many years ago 20% of the population of this country lived in the cities and 80% on the farm. Now the reverse is true; 83% in the cities, 17% on the farm with the trend continuing as the exodus from the farm maintains its flow to the cities. With this ever dwindling number staring my urban brother in the face, who remains in the city making the nicer things of life, I would say to him, "Brother, Brother, be quiet or you might have to return to working the soil to survive. You can't make a man farm, you know, and as long as you are blessed with Country Hicks still willing to stay in the cold, rain, and blazing sun for you, Brother, lay off.

"When the farmer is forced to pay time and a half and double time, Brother, then the cost of what you have been eating is going to take its place alongside your automobile, television set, and refrigerator that you never talk about."

Roland L. Toups

Mr. J. J. Munson, President of The South Coast Corporation, has announced that Mr. Roland L. Toups, General Superintendent, has been elected a Vice-President of the Corporation. Mr. Toups will continue in charge of all operations of this big Louisiana sugar enterprise. Our congratulations both to Mr. Toups and The South Coast Corporation.

Molasses Bulletin

In answer to many questions about feed molasses, the U. S. Department of Agriculture has a new publication on the subject, "Feeding Molasses to Livestock". The bulletin is based on the results of molasses feeding tests carried out by the State agricultural experiment stations and USDA's Bureau of Animal Industry, on marketing research studies by the Sugar Branch, and on actual experience of many farmers who feed molasses to their livestock.

The bulletin states that although the amount of molasses fed to livestock in recent years has increased, its use in feed could be expanded to benefit many livestock feeders, as well as molasses producers. Supplies of molasses usually are abundant. Six and one half gallons of molasses has about the same feed value as a bushel of yellow corn. Molasses, being highly palatable, when added to feeds such as roughages makes them more palatable, and often induces livestock to eat feed they normally would refuse.

The bulletin, prepared by the Sugar Branch of the Production and Marketing Administration, explains advantages of feeding molasses and recommends amounts to be fed, both directly and with other feeds. Also included is information on sources of various types of molasses, methods of delivery, equipment needed to receive and use molasses on the farm, and suggested methods of on-farm distribution.

A copy of the bulletin may be obtained from the Office of Information Services, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Analysis Meeting Scheduled

Dr. Frederick Bates, President of the International Sugar Commission has announced that the eleventh session of the International Commission for Uniform Methods of Sugar Analysis will be held in Paris, France on June 9th, 10th, 11th and 12th 1954. If it is not possible to complete the agenda during these four days, the session will continue

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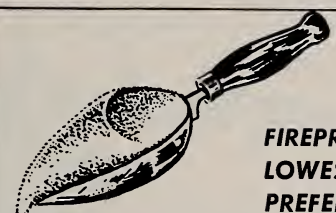

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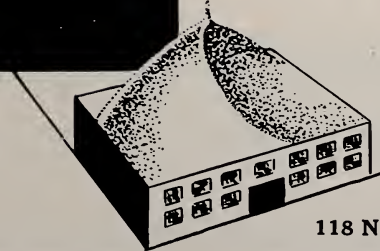

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Dr. Bates states that the eleventh session is being sponsored by the National Syndicate of Sugar Manufacturers of France under the Presidency of Monsieur Louis Beauchamps and the French National Committee of the Commission.

The Price Skid

The following paragraphs have been taken from the November 13th weekly report on the sugar markets issued by W. H. Edgar & Son, Inc. the big sugar brokerage firm with headquarters in Detroit, Michigan.

"RAWS—In view of the general developments, it is not to be considered as unexpected, that prices have declined a full 25 points during the preceding week.

Of influence has been the spread between old and new crop price indications, coupled with the usual falling off in refined sugar deliveries at this season. An added factor was the reallocation by the Department of Agriculture of an additional 80,000 tons of the beet deficit.

The trade have generally been anticipating a further quota increase, but the reallocation of this additional quantity was somewhat unexpected, and prices reacted unfavorably.

The continued deterioration in the refined sugar structure, with various reports of the expansion of the territories involved, has only served to add further fuel to the

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fires of uncertainty already existing. In consequence, transactions have been reported during the week at consistently declining levels, with little apparent effort to alter the lower trend.

Sugars considered in the spot category have currently been sold at 6.10 duty paid, with late-December and early-January considered available at around 6.00. Early new crop positions have recently been offered at about the levels as indicated by the New York Coffee and Sugar Exchange quotations, which presently show in the neighborhood of 5.90 duty paid for March arrival. Under former similar circumstances, the tendency has been for a merging of the old and new crop prices.

The present trend, however, has been toward a more rapid decline in the Spot, or nearer positions, without the usually expected compensating rise in the 1954 arrival quotations."

WEEKLY AVERAGE PRICES

Weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1953-54 pricing period have been as follows:

Week ending October 15, 1953
Raws 6.40, Blackstrap 11.00 cents.

Week ending October 22, 1953
Raws 6.35, Blackstrap 11.00 cents.

Week ending October 29, 1953
Raws 6.34, Blackstrap 10.46

Week ending November 5, 1953
Raws 6.315, Blackstrap 9.625 cents.

Week ending November 12, 1953
Raws 6.13, Blackstrap 8.96 cents.

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THE SUGAR BULLETIN

ol. 32—No. 5 DECEMBER 1, 1953

fficial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor
Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by A. W. DYKERS

Thanksgiving

Yesterday was the "Day" and we hope you enjoyed it as much as we did. The weather was perfect and the "bird" was perfect and, all in all, it was a pretty good Thanksgiving.

And speaking of weather, have you ever seen anything to equal the harvesting weather so far this season? The canes are pretty good, too. These are two blessings for which I am sure we all are thankful.

The "strike" is over and we learned a lot. Most important, we learned what the American Sugar Cane League can do when the chips are down. For these lessons we are very thankful.

The shooting has stopped in Korea, and we are certainly thankful for that. We wish we could be thankful for the way the Sugar Act is being administered, but we can't go quite that far. We are thankful, however, for the privilege of living in a country where we can fuss about what is going on without fear of retaliation.

There are many other things of a personal nature for which we are thankful, and not the least among these is being associated with the men who work so hard to promote the welfare of the Louisiana sugar industry. Being privileged to share, in a very small way, their successes and their disappointments is good.

Western Group Complains

The Louisiana Sugar Producers Club (Western Division) has complained to Secretary of Agriculture Benson about the way the Sugar Act is being administered. On November 19th a letter signed by Mr. Stephen C. Munson, President of the Club was mailed to Mr. Benson. The letter said:

My Dear Mr. Secretary:

"The Sugar Act of 1948, as amended, is being administered in a manner which keeps the price of raw sugar at a disastrously low level. During this year the Department of Agriculture took several quota actions which had the effect of setting a ceiling price of $6.40 per hundred pounds; and on November 5, an untimely reallocation completely disrupted the market, resulting in a price decline of 31 cents per hundred pounds between November 5 and November 13."

"During the campaign for the Presidency, President Eisenhower promised sugar farmers better administration of the Sugar Act. We are inclined to believe you also favor more equitable treatment of the domestic sugar industry. However, the fact remains that the price of sugar is lower than the price which President Eisenhower said was too low, and it is obvious that the domestic sugar industry is not receiving equitable treatment."

"Unless you take some constructive action immediately, the season's average price for the current Louisiana crop which is based on the period from October 9, 1953 through February 25, 1954 will likely be considerably less than the average for the preceding crop."

(Continued On Page 76)

IN THE FIELD WITH LLOYD LAUDEN

The Crop Estimate

The harvesting of the Louisiana cane crop has progressed very rapidly this season and is now considerably more than 50 per cent completed. This gives us a chance to again estimate the final production.

Earlier this year and until the month of August I had estimated the production of sugar from this crop at about 5 per cent below the production in 1952. This estimate was arrived at by observations of the cane crop while on my periodic visits to 51 secondary increase stations, three primary increase stations and other farms located over the entire sugar cane area of Louisiana.

At that time it appeared that plant cane in general throughout the entire belt, though not gappy, was thin. Plant cane did not appear to sucker properly this year particularly the variety C. P. 44-101. Each year, on most farms, there is a certain amount of what is considered poor stubble cane. The amount of poor stubble cane on most farms seemed greater this year than in 1952. The Western Area of the belt was very badly affected by an extended drought which caused very apparent reduction in growth. For these reasons I assumed the production of cane would be about five per cent below that which was produced last year.

Whenever an estimate is made an assumption must also be made. My error was assuming that sucrose and purity would be very similar to that of last year. I was also pleasantly surprised when the plant cane which appeared thin in mid summer throughout the belt, came through to make good yields; the tonnage being made up in all probability by greater stalk weight. The Western area, however, still appears to be below last year's cane production.

At this time, it appears that the production of cane in the Bayou Lafourche area will be very similar to that produced last year with a slight possibility that tonnage there might exceed last year's production. The River Areas appear to have a crop comparable to that of last year's with a possibility of being only slightly below the cane production of 1952. The production of cane in the Northern Area appears very comparable to last year's production. As mentioned before, the production in the Western Area certainly appears greater than 5 per cent below last year's cane production. It appears that the cane production for the State will not be as high as last year, but since sucrose and purities are better the production of sugar will be greater than that of last year's crop.

The Production and Marketing Administration figures indicate that seven per cent more sugar per ton of cane was produced through the week ending November 14 than was made during the corresponding period last year. Assuming that this increase in sugar per ton will continue and that the production of cane will equal that of last year we could possibly make 483,000 tons

(Continued On Page 79)

IN WASHINGTON WITH JOE FERRIS

1954 Marketing Allotment Hearing

January 6, 1954 has been tentatively selected by the U. S. Department of Agriculture for the hearing on 1954 marketing allotments. The hearing will be held in New Orleans in the Ballroom of the Hotel Monteleone.

A notice of the hearing is being prepared and will be issued shortly unless some unforeseen situation necessitates a change in the date.

In any event, the hearing must be held not later than the first week in January in order for the USDA to issue a preliminary determination of marketing allotments for Mainland mills before the February 1st deadline set by the Department.

Quota Re-Allotments

The shortest hearing on record was held by the USDA November 24th for the purpose of revising the allotment of 1953 quotas for Mainland Cane Mills. The hearing was necessary in order for the Secretary to divide among those mills the 7531 tons resulting from the 80,000-ton beet deficit and the 660 tons put into the Mainland Cane Area pool by Youngs' Industries.

The hearing was held in a small conference room in the Department of Agriculture Building and only five persons were present. They included the Hearing Officer, Jack W. Baine, A. R. (Dick) De Felice from the Solicitor's Office, and Herbert G. Folken of the Sugar Branch, the government witness, a public stenographer, and your Washington Representative.

The hearing lasted only about fifteen minutes, thus setting the record.

Misunderstanding

From inquiries received at your Washington Office and by the Sugar Branch, USDA, there seems to be a widespread misunderstanding of S. R. 814.20, paragraph (b) which authorizes the Secretary of Agriculture to transfer, under certain conditions, marketing allotments between allottees if one allottee is unable to process the tonnage of sugarcane allotted to him.

A number of mill operators apparently have the mistaken idea that if their neighbor is unable to fill his allotment, he may transfer the unfilled portion of his allotment to his neighbor with the approval of the Secretary of Agriculture.

That is not the case.

If, for any reason, a mill is destroyed or rendered incapable of grinding the cane normally ground by it and thus is unable to fill its allotment, the Secretary has authority to authorize the transfer of such unfilled allotment to one or more mills in the Area, provided those mills grind the proportionate share cane which would have been ground by the mill having the deficit.

An Old Story

The consumptive estimate hearing held here in Washington on November 16th followed the pattern of previous hearings. Witness after witness from the various domestic sugar areas pointed out the inef-

(Continued On Page 79)

U. S. BEET SUGAR ASSOCIATION BRIEF AT SUGAR CONSUMPTION HEARING

Statement of Robert H. Shields, President and General Counsel, United States Beet Sugar Association with respect to the Determination by the Secretary of Agriculture of 1954 Sugar Consumption Requirements at a Public Hearing held by the U. S. Department of Agriculture, Washington, D. C., November 16, 1953, Pursuant to the Sugar Act of 1948.

Mr. Chairman and Members of the Hearing Panel:

My name is Robert H. Shields. I am President and General Counsel of the United States Beet Sugar Association. The members of the Association, whose names appear at the end of this statement, produce more than 99 per cent of the beet sugar output of this country.

The price of sugar in relation to the general cost of living, on the comparative basis spelled out in the Sugar Act, as the chart* attached to this statement shows, is still extremely favorable to consumers. But whether the standard taken is the general cost of living, or the cost of foods, or workers income, or consumers total disposable income, or the prices paid by industrial sugar users for other ingredients, the price of sugar, on the basis of any representative past period, goes to the head of the class for the best consumer behavior. The record is clear. The Secretary has always carefully protected the rights of household consumers and industrial users of sugar and they should be grateful to him for it.

At the same time that the Secretary has been instrumental in keeping the price of sugar at levels obviously more than fair to consumers throughout 1953, he has, during a portion of the year, kept the price at stable levels relatively fair to producers. During the eight-month period from March through October, 1953, the price of duty-paid raw sugar was stabilized at an average of slightly less than $6.40 per hundred pounds.

However, the average raw sugar price of slightly less than $6.40 which prevailed during the major portion of 1953 is to be contrasted with the average price during January and February, 1953, of $6.10 with last Thursday's price of $6.05 and with prices indicated for January and February, 1954, of $5.90. or less. Today's raw sugar price is also to be contrasted with the $6.50 price which prevailed on November 17, 1952, and with the $6.38 price which prevailed just two weeks ago.

Because of the very depressing forces now affecting the sugar market, and in view of current and prospective raw sugar price levels, the United States Beet Sugar Association recommends that in 1954 the Secretary of Agriculture, in making his initial and subsequent sugar consumption requirement determinations, apply more vigorously than ever before his time-tested price stimulus allowance technique. The Association also recommends that quota adjustments in 1954 be more sensitively timed so as to prevent sharp declines in sugar values at the beginning and the end of the year. If the Secretary believes that this objective cannot be fully achieved by this means, the United States Beet Sugar Association further recommends that the Secretary allow compensating price increases during the period of heavy sugar demand.

A stronger sugar price policy which will more adequately protect the interests of sugar producers throughout 1954 is necessary not only because of the factors depressing the sugar market but also be-

* Chart omitted.

SUGAR MARKET STATISTICS THROUGH NOVEMBER 25, 1953

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.15	6.35	6.50
QUOTA RAWS DELIVERED NEW ORLEANS	6.11	6.31	6.45
WORLD SPOT RAWS (In Cuba)	3.12	3.08	4.00

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Jan.	1954 March	May	July
Today	5.45**	5.43	5.50	5.63
1 Month Ago	5.60**	5.47	5.52	5.62
1 Year Ago	5.68**	5.40	5.48	5.66

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	None	1,643,742 bags
Godchaux	None	1,557,823 bags
Colonial	19,800 bags	1,255,235 bags
Henderson	None	471,615 bags
Southdown	None	250,295 bags
South Coast	None	598,590 bags
Sterling	None	None
Supreme	None	728,701 bags
Totals	19,800 bags	6,506,001 bags

cause, at the same time that these depressing factors are at work, the already high cost of producing and marketing sugar is still increasing.

Our most respected economic prognosticators, including those in the Department, forecast somewhat reduced business activity and employment in 1954. The forecasters agree that with lower Government expenditures and reduction in business investment, particularly in the field of business inventories, total demands on the economy next year are likely to be less than in 1953. Thus, despite the fact that sugar is still our cheapest food—our best calorie buy—the probable level of economic activity in the country next year affords no basis for believing that the demand factors affecting sugar distribution in 1954 will be as strong as they were in 1953.

Neither does it appear that there will be an increased distribution of sugar in 1954 as a result of sugar users building up their sugar stocks. Since there will be an abundance of sugar available for consumers in 1954, obviously there is no reason to expect housewives to "store" sugar supplies nor for industrial users to change their present policy of letting sugar producers and refiners carry their above-minimum sugar inventories for them. Moreover, as recent studies on this subject indicate, for several reasons, including conversion of operations to use of liquid and bulk sugar, the trend is for industrial users to carry somewhat smaller sugar inventories. Thus, downward adjustment in sugar stocks of industrial users next year might well offset the small annual statistical increase in sugar distribution flowing from increased population.

Although there is reason to believe that the demand for sugar in 1954 will be less than it was in 1953, it seems quite clear that the cost of making sugar in 1954 will continue at high levels. At the same time that such important cost items as transportation and labor are still increasing, unit returns from by-product sales are already

(Continued On Page 77)

This house is occupied, rent-free, by a field worker who went on strike.

Rear view of double house occupied by field worker and factory worker. The field worker struck.

This house is in New Orleans. It rents for $30.00 a month.

Rear view of house pictured above.

TESTIMONY OF GOVERNMENT WITNESS AT PUBLIC HEARING ON REVISION OF ALLOTMENT OF 1953 SUGAR QUOTAS FOR MAINLAND CANE AREA

My name is Herbert G. Folken. I am Chief of the Quota and Allotment Division of the Sugar Branch of the Production and Marketing Administration, United States Department of Agriculture, Washington, D. C.

I have been designated to represent the Department in this proceeding. A statement of such designation by the Director of the Sugar Branch is offered as an exhibit for the record.

In accordance with the rules of practice under which this hearing has been called, a Government proposal for the revision of the allotments of the Mainland Cane Sugar quota for 1953 was published in the Federal Register on November 18, 1953, and the proposal is required to be presented at this hearing. Bear in mind that the Government proposal is merely a starting point and that the allotment of the quotas will be made only after consideration of all the proposals and evidence included in the record of this hearing. The regulations require that the revision be based only on the information in the hearing record.

On June 23, 1953, in New Orleans, Louisiana, a hearing was held for the purpose of receiving evidence to enable the Secretary to make a fair, efficient and equitable distribution of the 1953 sugar quota for the mainland cane sugar area.

At that hearing, or following the hearing, 50 of the 51 allottees waived their right to a further hearing for the purpose of 1) giving effect to a change in the quota for the mainland cane area or (2) reallotting to other allottees any quantities released by one or more allottees provided the revised allotments were made on the same basis as the original allotments. Since the initial order was issued (S. R. 814,20 (18 F. R. 5289), the quota for the mainland cane sugar area has been increased by 7,531 short tons, raw value, due to an additional deficit in the quota for the beet area. (S. R. 813, Amendment 7 (18 F. R. 7159). Also, 660 short tons, raw value, have been released by one allottee.

Since one allottee failed to stipulate that revised allotments may be made on the same basis as the original allotment, without a prior hearing, this hearing is necessary.

It is now proposed that the revised allotment be made on the same basis (using the same data) as the original allotments.

Giving effect to the 7,531 ton increase in the quota, and the reallotment to other allottees of the 660 tons released by one allottee, revised allotments for the 51 allottees would be as follows:

Processor	Allotment (Short tons, raw value)
Albania Sugar Coop., Inc.	5,430
Alice C. Ref'ry. & Pltn., Inc.	6,592
Alma Plantation, Ltd.	6,308
J. Aron & Co., Inc.	10,510
Billeaud Sugar Factory	7,860
Breaux Bridge Sugar Coop., Inc.	6,521
Burton-Sutton Oil Co., Inc.	5,450
Caire & Graugnard	3,512
Caldwell Sugar Coop., Inc.	8,032
Catherine Sugar Co., Inc.	5,683
Columbia Sugar Company	4,375
Cora-Texas Mfg. Company	2,420
Cypremort Sugar Co., Inc.	4,836
Dugas & LeBlanc, Ltd.	9,607
Duhe & Bourgeois Sugar Co., Inc.	7,475
Erath Sugar Co., Ltd.	4,942
Evan Hall Sugar Coop., Inc.	17,111
Evangeline Pepper & Food Prod.	5,495
Fellsmere Sugar Prod. Assn.	8,323
Frisco Cane Co., Inc.	650
Glenwood Coop., Inc.	8,519
Godchaux Sugar, Inc.	31,990
Helvetia Sugar Coop., Inc.	5,937
Iberia Sugar Coop., Inc.	12,884
Lafourche Sugar Co.	11,124
Harry L. Laws & Co., Inc.	7,854
Leveret-St. John, Inc.	9,744
Loisel Sugar Company	5,886

TARIFF ON PHILIPPINE SUGAR

Washington, D. C.
November 6, 1953.

Hon. Walter S. Robertson
Assistant Secretary of State
Washington 25, D. C.

Dear Mr. Secretary:

The domestic sugar industry recently learned that the Republic of the Philippines is seriously urging, as one part of a general proposal for modification of its Trade Agreement, that the application of the graduated scale of duty on Philippine sugar should be indefinitely postponed, and that such sugar shall continue to enter the United States duty-free.

The Philippine Trade Agreement provides, among other things, that sugar from the Republic of the Philippines, which, for the first eight years of that Agreement has entered the United States duty-free, shall be subject, after July 4, 1954, to a graduated scale of duty, progressing by 20 equal annual increments to the full rate of duty on sugar.

It is our understanding that the Trade Agreement is intended primarily to assist the Republic of the Philippines in attaining its full economic independence as soon as it is able to do so, and to cushion, by graduated progress over a twenty-year period, any shock to the Philippine economy.

The sugar industry in the Philippines has made remarkable recovery since World War II. It is now in a position to exceed its pre-war cate that in the year 1954 the Philproduction. Official estimates indiippines will be able to deliver in full its quota for the United States pursuant to the Sugar Act of 1948, and, in addition, to sell some sugar in the world market as provided in the new International Sugar Agreement.

In view of the uniquely preferred position of the Republic of the Philippines, which enjoys under the Sugar Act a liberal quota, fixed in amount, in the coveted United States market—a position granted to no other foreign country—and of other conditions attendant upon the production and marketing of Philippine sugar, the proposal for postponement of the moderate, graduated scale of duty seems to be neither well-founded nor justified. The proposal further appears to be inconsistent with the established sugar policy of the United States, as expressed in the Sugar Act of 1948.

The domestic sugar industry can see no valid reason why the graduated scale of duty on sugar entering the United States from the Philippines should not become effective in accordance with the Trade Agreement.

In the event that the official views of the United States are not in accord with the views hereinabove set forth, representatives of the domestic sugar industry would like to have an opportunity to dis-

(Continued On Next Page)

Louisiana State Penitentiary	3,634
Louisiana State University	150
Lulu Plantation	10,307
Meeker Sugar Coop., Inc.	4,263
Milliken & Farwell, Inc.	9,733
Okeelanta Sugar Refinery, Inc.	10,355
M. A. Patout & Son, Ltd.	7,597
Poplar Grove Pltn. & Ref. Co.	5,425
E. G. Robichaux Co., Ltd.	3,705
St. James Sugar Coop., Inc.	9,586
St. Mary Sugar Coop., Inc.	12,331
Slack Bros., Inc.	2,802
Smedes Bros, Inc.	4,223
South Coast Corp.	35,100
Southdown Sugars, Inc.	33,482
Sterling Sugars, Inc.	9,463
J. Supple's Sons Pltn. Co.	3,588
United States Sugar Corp.	97,091
Valentine Sugars, Inc.	9,397
Vermilion Sugar Co.	2,690
Vida Sugars, Inc.	4,607
A. Wilbert's Sons Lbr. & Sh. Co.	6,932
Young's Industries, Inc.	5,760
All other persons	0
Total	517,291

cuss this matter with you.

Very truly yours,

/s/ Arthur L. Quinn
Chamber of Commerce of Puerto Rico

/s/ Dudley Smith, Vice President
Assn. of Sugar Producers of Puerto Rico

/s/ Ernest W. Greene, Vice President,
Hawaiian Sugar Planters Association

/s/ Josiah Ferris, Vice President
American Sugar Cane League, and Washington Representative,
Florida Sugar Producers.

/s/ Robert H. Shields, President & Gen. Counsel
United States Beet Sugar Association.

United States Beet Sugar Assn.
Tower Building
Washington, D. C.

Sirs:

I wish to thank you for your letter of November 6, 1953, setting forth the views of the domestic sugar industry with respect to the proposal of the Philippine Government for modifying the United States-Philippine Trade Agreement of 1946 on Trade and Related Matters so as to continue the duty free admission of Philippine sugar into the United States after July 4, 1954. It is noted that it is the view of the domestic sugar industry that the present duty free trade period should not be extended and that the graduated scale of duty on sugar entering the United States from the Philippines, which under the terms of the aforementioned Trade Agreement will begin to be applicable July 4, 1954, should come into force as provided therein. It is also noted that the following associations support this position: Chamber of Commerce of Puerto Rico, Association of Sugar Producers of Puerto Rico, Hawaiian Sugar Planters Association, American Sugar Cane League, Florida Sugar Producers, and United States Beet Sugar Association.

The Philippine proposal to which you refer is one of a number of changes which the Philippine Government seeks in the 1946 Trade Agreement. In order that these proposals may be competently evaluated by this Government there has been established an interdepartmental executive committee consisting of representatives from the Department of Commerce, Agriculture, Labor, Interior, Treasury, the Tariff Commission, the Foreign Operations Administration and this Department. This committee is currently engaged in studying whether in its view the Philippine proposals might provide a satisfactory basis for modification of the 1946 Trade Agreement. Should this Government determine to effect a change in the present trade agreement, public notice of this intention would be provided in order that all interested parties could submit their views. In the meantime, I am having copies of your letter distributed to all members of the executive committee considering this problem in order that this committee might, at this time, have the benefit of the views of the domestic sugar industry.

Very truly yours,
Walter S. Robertson
Assistant Secretary

UP FRONT

(Continued From Page 67)

"We respectfully request that you personally study the debacle in the administration of the Sugar Act and take steps to counteract the damage being done to the domestic sugar industry."

Plantation Housing

On pages 72 and 73 of this issue we are reproducing two sets of pictures. Those on page 72 show two houses on the Raceland Plantation of Godchaux Sugars, Inc., that are furnished free of charge to plantation workers. The pictures on the

opposite page are views of a house in New Orleans which is occupied by workers and that rents for $30.00 a month.

We print these pictures to graphically illustrate how much better the housing conditions are on the plantations than they are in the cities. It is, of course, true that a lot of people in New Orleans live in better houses than the one pictured, but it is also true that many, many houses here are worse than the one shown, and it is true, too, that a house in New Orleans that is comparable to the houses on the Godchaux plantation would rent for at least $50.00 a month.

WEEKLY AVERAGE PRICES

Weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1953-54 pricing period have been as follows:

Week ending October 15, 1953
Raws 6.40, Blackstrap 11.00 cents.

Week ending October 22, 1953
Raws 6.35, Blackstrap 11.00 cents.

Week ending October 29, 1953
Raws 6.34, Blackstrap 10.46

Week ending November 5, 1953
Raws 6.315, Blackstrap 9.625 cents.

Week ending November 12, 1953
Raws 6.13, Blackstrap 8.96 cents.

Week ending November 19, 1953
Raws 6.01, Blackstrap 9.00 cents.

Week ending November 26, 1953
Raws 6.09, Blackstrap 9.06 cents.

BRIEF

(Continued From Page 71)

significantly lower, with the demand for some of these products still softening.

The Association's recommendations also take into account an alarming situation in the world sugar market. World sugar supplies, already at dangerously high levels, are still increasing. World sugar prices have fallen below the cost of production of most world sugars. Today's world sugar market is so glutted that it is more a residual dumping ground for homeless sugars than a market for establishing sugar values. Today's depressed world sugar prices not only have presented nations which trade with major sugar exporting countries with the ugly fact of less commerce but also have created such an explosive situation that the economic and political stability of some of these exporting countries is actually jeopardized. The only hope for some modest improvement in the world situation next year springs from the possibility of some effective concerted action on a global basis by both the producers and consumers of sugar working together along the lines indicated by the proposed new International Sugar Agreement.

The Association's appraisal of the present situation is that, if domestic beet sugar producers are not to be crushed in 1954 between the upper mill stone of declining sugar prices and the lower mill stone of rigid high costs, the Secretary must pursue a more forceful and effective sugar price policy in 1954. In face of the depressing forces affecting the sugar market, and current and prospective low sugar price levels, the Secretary must apply more vigorously than ever before his time-tested price stimulus allowance technique not only in his in-

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itial, but also in his subsequent, consumption requirement determinations if sugar prices are to be restored and maintained throughout 1954 at levels fair to producers. If confidence in the sugar market is to be reestablished, it is also essential that the Secretary announce his initial determination of 1954 sugar consumption requirements, accompanied by a simple, forthright and revealing statement of forward price objectives, just as soon as possible.

The names and principal Offices of the members of the United States Beet Sugar Association are:

The Amalgamated Sugar Company, Ogden, Utah.

American Crystal Sugar Company, Denver, Colo.

Franklin County Sugar Company, Preston, Idaho.

The Garden City Company, Garden City, Kan.

The Great Western Sugar Company, Denver, Colo.

Great Lakes Sugar Company, Detroit, Mich.

Gunnison Sugar, Inc., Salt Lake City, Utah.

Holly Sugar Corporation, Colorado Springs, Colo.

Lake Shore Sugar Company, Detroit, Mich.

Layton Sugar Company, Layton, Utah.

Menominee Sugar Company, Green Bay, Wis.

Michigan Sugar Company, Saginaw, Mich.

Monitor Sugar Division of Robert Gage Coal Company, Bay City, Mich.

The National Sugar Manufacturing Co., Denver, Colo.

Spreckels Sugar Company, San Francisco, Calif.

Union Sugar Division, Consolidated Grocers Corporation, San Francisco, Calif.

Utah-Idaho Sugar Company, Salt Lake City, Utah.

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IN WASHINGTON

(Continued From Page 69)

fectiveness of the administration of the Sugar Act with respect to the price of sugar. All of the domestic producer witnesses complained about the price but most of them seemed willing to suffer the occasional price slumps provided the peaks would be high enough to bring an acceptable average price for the year.

Industrial users were present in their usual numbers. Their recommendations, too, followed the pattern of previous years . . . higher quotas and lower prices.

To one who has attended all of the consumptive estimate hearings, it seems that other than providing an opportunity for various interests and individuals to "sound off," the hearing accomplishes no purpose whatsoever.

Nobody Home?

Individuals who have been advocating Secretary of Agriculture Benson's resignation, and some who have not gone quite that far, got a thrill last week when they went by the Secretary's office and found all the furniture piled up in the middle of the floor and "nobody home," not even an office boy.

Investigation revealed, however, that the Secretary is still very much on the job! He is occupying temporary quarters on the first floor of the Administration Building while his suite of offices is being re-decorated and air conditioned.

IN THE FIELD

(Continued From Page 68)

of sugar in Louisiana this year. Unfortunately, the Bureau of Agriculture Economics now estimates that we will make three per cent less cane than we made last year; therefore, our sugar production this year will more likely be about 468,000 tons of sugar.

* * *

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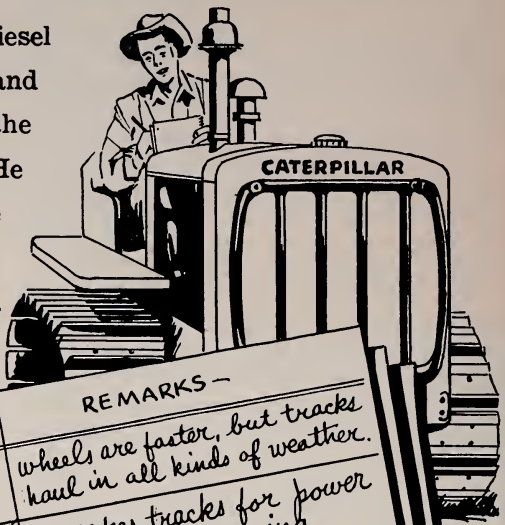

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land preparation	fair	excellent ✓	it takes tracks for power for deep plowing
cultivation	good ✓	fair	wheels move faster, fit high rows.
fallow plowing	fair	good ✓	light tread of tracks does not compact soil
land clearing	—	excellent ✓	takes tracks and power for this
road repair	poor	excellent ✓	takes tracks and power for this
drainage work	poor	excellent ✓	takes tracks and power for this

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THE SUGAR BULLETIN

Vol. 32—No. 6 DECEMBER 15, 1953

Official Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

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414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor
Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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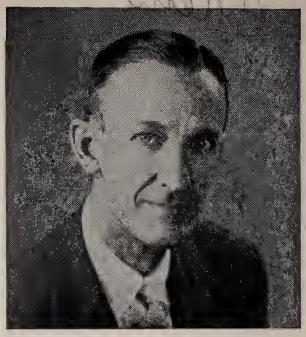
THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by A. W. DYKERS



Lost, One Stabilizer

The sugar market has not been following the script of late and the folks who run the Sugar Branch seem to be almost as bewildered as the "Ole Mule" is, which is a rather discouraging development. The drivers of the "Ole Mule" are supposed to know where they are going.

Sometimes we feel down right sorry for those people up in Washington. Take this year, for instance, when they shifted to the "stabilization technique." They coasted along in fine style for a good six months "stabilizing" the market at the 6.40 mark with no trouble at all. It was a cinch. Everytime the "Old Mule" would get a little frisky, they would put on just a little more weight and that would do the trick. The poor old beast would use up all his energy trying to keep from going backwards!

This system worked like a charm until a little old 80,000 tons of beet sugar was shifted around a couple of weeks ago and the "Old Mule" fell flat on his face from exhaustion; proving, of course, that even a mule can stand just so much, and no more.

Right here something happened that the folks in Washington, and all the rest of us, will probably remember for a long time to come. You know the song about there being an awful lot of coffee in Brazil; well, in Cuba, its sugar that there is an awful lot of, and down there they found 29,000 tons of quota sugar that had been lost somewhere. When they piled this onto the "Old Mule" he ran amuck. He jumped up and started lunging forward again!

This unexpected development seemed to terrify the folks in Washington, but they rose to the occasion. Hastily they threw up a road block of over-quota sugar and the "Old Mule" was stopped in his tracks. He has been backing up ever since. Already he has reached the 6.00 mark on the road down and where he will stop nobody knows.

Lost—one stabilizer marked 6.40. Anyone finding same please return in a great big hurry to the Sugar Branch, Washington 25, D. C. They really need it.

The Strike

The National Agricultural Workers Union, Local 317, lost in the U. S. Supreme Court last week when the highest court of our land turned down their application for the issuance of a stay order.

On Friday, November 27th the Union filed an application with the United States Supreme Court requesting that a stay order be directed to the Louisiana Supreme Court and to Judge J. Lewis Watkins of Terrebonne Parish, suspending the operation of the preliminary injunction issued by Judge Watkins on November 2nd prohibiting picketing of the raw sugar mill and refinery operated by Southdown Sugars, Inc., at Houma. The application for the issuance of the stay order was filed in order that the Union could re-

(Continued On Page 95)

IN THE FIELD WITH LLOYD LAUDEN

Cutting Unit Cost

Now that acreage restrictions have been imposed upon the sugar industry the small farmers will have still another item that will affect their unit costs in the production of sugarcane. This will be the necessity of keeping the same amount of equipment and approximately the same number of workers to cultivate and harvest about 7.8% less land in cane in 1954. Even though the reduction in acreage for the state as a whole will amount to about 23,500 acres, the reduction of land in cane on small farms will not be large enough to displace many field workers.

Many farmers must start thinking now about methods to cut the unit cost of producing and harvesting their cane crops. Some small farmers have decided that even though the reduction of land in cane is small, this reduction actually represents their profit and have, therefore, decided to lease their land to someone else. Other small farmers have already leased additional land in order to take advantage of extra acreage to reduce unit cost. There are also many farmers who can probably maintain the same level of production as they did before the acreage reduction by using better farming practices, but in general the small farms are already the leaders in tons of cane per acre production.

Perhaps the cooperative or community type of cultivation and harvesting may serve to reduce the cost of production. At first glance the idea of sharing tools, implements, tractors, loaders, harvesters, and workers may seem impossible, but upon closer examination farmers may find that this scheme can be put to good use in many places on the farm.

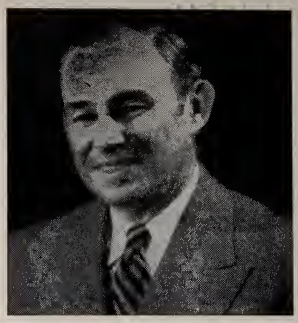
Many small farmers have more land to cultivate and more cane to harvest than one tractor unit can efficiently take care of, even considering the acreage reduction, but not enough land or cane to efficiently use two tractor units. To further explain, these farmers need one and a fraction units. Also in many instances the purchase of a mechanical loader is not justified for the small farm in this position.

To illustrate how community or cooperatively owned cultivation and harvesting equipment could serve to an advantage, let us assume that three small neighboring farmers are in the position described above. Now also assume that instead of each farmer purchasing an additional unit, the three farmers cooperatively buy a complete tractor unit and also a one man tractor mechanical loader. During the harvesting season the unit and the loader can be transferred from farm to farm as it is needed.

In this instance the expense of one tractor would be saved. In addition the three cooperatively would be able to use the mechanical loader which would result in a savings in labor. It is also possible that arrangements could be made between these farmers and the mill whereby their daily mill quotas

(Continued On Page 94)

IN WASHINGTON WITH JOE FERRIS



Hearings—Cane and Beet

The U.S. Department of Agriculture has officially announced a public hearing to be held January 6, 1954, at 10 A.M., in the Monteleone Hotel, New Orleans, for the purpose of receiving testimony in regard to the allotment of the 1954 sugar quota for the Mainland Cane Area.

The USDA has also annonuced a pubic hearing in Chicago on January 18, 1954 to develop a basis for the allotment of the 1954 sugar quota for the domestic beet sugar area.

According to the Department's announcement, allotment of the quota is necessary to provide each processor of sugar beets an equitable opportunity to market sugar within the 1954 quota of 1,800,000 tons. Expected production of over 1,800,000 tons for the 1953-54 sugar beet crop, and the prospects of heavy plantings of beets for harvest in late 1954 make this action by the Department necessary.

Acreage restrictions for the 1954 crop are not now contemplated by the Department.

Ears Burn?

For the past two weeks the chief topic of conversation in Washington sugar circles has been the inept handling of the quota control system by the USDA officials.

First came the unfortunate and untimely re-allocation of the beet deficit which threw the already sagging market into a tailspin. The remaining spark of life was snuffed out when Eastern Seaboard refiners were granted permission to refine over-quota Cuban raws in bond, which completely dried up the market for domestic raws during the remainder of the calendar year.

It is almost unbelievable, but some Sugar Branch boys still argue that those actions had no effect whatsoever on the market!

Clarence Bourg Ill

The many friends of Vice President Emeritus Clarence Bourg will regret to learn that he is seriously ill from a stroke he suffered several weeks ago. He has been discharged from the hospital and is now at his home at 108 Oxford Street, Chevy Chase, Maryland.

Novel Report

Washington sugar people had the privilege and pleasure of seeing and hearing President John E. Russell of the Hawaiian Sugar Planter's Association present the 73rd Annual Report to his Association.

President Russell, who has just completed 20 years as head of HSPA, presented his report in the form of a sound and color motion picture which depicted the high lights of the year's activities. The picture was shown in one of the projection rooms at the Department of Agriculture.

President Russell and his staff are congratulated for their many outstanding achievements and the very effective and interesting medium they chose for recording them.

Merry Xmas!

Wishing you a Merry Christmas and a Happy, Prosperous New Year.

Sincerely,
JOE

THE EFFECT OF DRY STORAGE BEFORE PLANTING ON THE GERMINATION OF SUGARCANE CUTTINGS

By Robert E. Coleman, Plant Physiologist, Div. of Sugar Plant Investigations, Bureau of Plant Industry, Soils and Agricultural Engineering, U. S. D. A.

Field planting of sugarcane in Louisiana is done entirely by stalk cuttings. Consequently the germination of these cuttings is of utmost importance in the establishment of a stand. Under present planting conditions in Louisiana about 30% germination is normally expected. To insure a good stand requires the use of more seed material than is economically desirable. Considerable experimental work has been done in different sugarcane-growing countries to further an understanding of the factors influencing germination and to find some practical means of improving it. This previous work is adequately reviewed by Van Dillewijin.[1] As early as 1894 Went[2] pointed out the role of glucose in the developing bud of sugarcane and attributed the rapid germination of top cuttings to this glucose supply.

The beneficial effects of delaying the planting of top cuttings have been reported from Java, Formosa and the Philippines, but little has been reported on the effect of such treatment on stalk cuttings or the possible explanation of such. Overbeek[3] and Brandes and Overbeek[4] have worked on the relationships of auxin to germination. In germination tests conducted recently at the U. S. Sugar Plant Field Station, Houma, Louisiana, two factors, storage of cuttings prior to planting and auxin relationships, were studied.

Experimental Data

Experiments conducted during the past two years have confirmed the fact that cane which has been allowed to dry in storage for sometime germinates more readily than freshly-cut cane. This increase in rate of germination and percentage of germination was demonstrated in field planting tests in 1951. In the first test, cane of two varieties, CP 29-320 and CP 44-155, which was stored at a temperature of 95° F at 50% relative humidity for six days was planted in comparison with freshly-cut cane of the same varieties. Twenty-four days after planting the cuttings of the stored cane of CP 29-320 showed 38% germination and of CP 44-155, 62% germination, compared to 19 and 25 percent, respectively, for the same varieties using fresh cuttings. A similar test conducted later the same year with five varieties, CP 29-320, CP 34-120, CP 36-105, CP 44-101 and CP 44-155, showed similar results. Germination counts for a period of 30 days following planting showed substantial increases in percentage of germination of the stored cane over that of freshly-cut cane. The data for these two tests are shown in Table I.

It will be noted in Table I (a) that the total germination of untreated cuttings after 24 days was about what would be expected under field conditions, and that of the stored cane was significantly higher. The total germination percentages shown in Table I (b) are somewhat lower than expected owing to unfavorable planting conditions. However, the difference between the two treatments show the decided advantage of the stored cane over that of freshly-cut cane.

An explanation advanced for this effect is that during the storage period inversion of sucrose took place and that the increased amount of glucose present in the stored cuttings was sufficient to support more rapid growth. It will be noted in Table I (b), that the greatest increases in germination were shown

(Continued On Next Page)

TABLE I

Percentages of germination of 12 6-eye cuttings of varieties of sugarcane at intervals after planting for cane stored for 6 days and for freshly-cut cane

(A) Planted August 24, 1951. (B) Planted September 19, 1951.

(A)

	12 Days		17 Days		24 Days	
	29-320	44-155	29-320	44-155	29-320	44-155
Stored Cane	16.6	37.5	23.3	54.1	38.3	62.5
Freshly-cut cane	0	1.3	6.9	11.1	19.4	25.0

(B)

	19 Days				
	CP 29-320	CP 34-120	CP 36-105	CP 44-101	CP 44-155
Stored cane	5.6	16.6	2.7	15.3	11.1
Freshly cut cane	0	2.7	0	4.2	8.3
	30 Days				
	CP 29-320	CP 34-120	CP 36-105	CP 44-101	CP 44-155
Stored cane	9.7	22.2	15.3	20.8	14.0
Freshly cut cane	2.7	9.7	4.2	11.1	16.6
	42 Days				
	CP 29-320	CP 34-120	CP 36-105	CP 44-101	CP 44-155
Stored cane	15.3	29.2	19.4	23.6	19.4
Freshly cut cane	7.0	20.8	11.1	22.2	23.6

by varieties CP 29-230 and CP 36-105, which are known to have a greater inversion rate than varieties C P44-101 and CP 44-155. In fact CP 44-155 inverts very slowly and no advantage is shown by the treatment.

With these points in mind, a similar experiment was conducted during 1952. Replicated plots of four varieties were planted with cuttings from cane that was stored in a dry shed and with those stored at 90° F. and 60% relative humidity for eight days along with freshly-cut cane of the same varieties. The germination percentages for the various treatments at intervals following planting are shown in table II.

The data in Tables I and II show similar effects. There was a definite stimulation in the rate and percentage of germination of stored compared to the freshly-cut cane. In most instances there was at least a 50% increase for the period up to 20 days. The differences between storage in the dry shed at 90° F and 60% relative humidity were small. It is of interest to note here again that the increase in percentage of germination was greater in the varieties CP 29-320 and CP 36-105 than in varieties CP 44-101 and CP 44-155 which showed very small differences 36 days after planting.

In order to study the changes in carbohydrate supply between the treatments, complete juice analyses were made when the cane was cut prior to storage and again following storage. These data are shown in Table III.

It can be seen from this table that two of the varieties, CP 29-320 and CP 44-155, showed a slight drop in total sugars for this period but a relatively great increase in the ratio of reducing sugars to sucrose. The other two varieties showed insignificant changes in these respects.

Having determined that periods of storage of greater than 6 days gave such definite increases in percentage of germination, it was of importance to know the minimum number of days required to bring about this effect. For this purpose a planting was made in wood shavings in a room with controlled temperature. Ten 6-eye cuttings (five to top eyes and five of bottom eyes) of two varieties were planted after from two to seven days of storage. Table IV shows the percentages of germination 21 days after planting.

TABLE II

Percentages of germination of 10 6-eye cuttings of varieties at intervals after planting, following storage for 8 days in a dry shed; at 90°F and 60% relative humidity and for freshly-cut cane, planted August 27, 1952.

		Germination Percent — Total No. Shoots			
Variety	Treatment	13 Days	20 Days	36 Days	52 Days
CP 29-320	Fresh	1	1	5	7
	Shed	5	28	25	47
	90°F. 60% RH	2	14	25	34
CP 36-105	Fresh	0	4	19	34
	Shed	12	30	40	63
	90°F. 60% RH	2	27	40	56
CP 44-101	Fresh	2	22	35	54
	Shed	23	35	36	88
	90°F. 60% RH	10	43	44	62
CP 44-155	Fresh	0	15	37	55
	Shed	9	32	45	58
	90°F. 60% RH	18	32	44	49
All Varieties	Fresh	0.8	10	24	150
	Shed	13	33	37	247
	90F°. 60% RH	8	27	39	210

TABLE III

Brix, percent sucrose, reducing sugars, total sugars and R/S ratio of the juice of 4 sugarcane varieties before and after 7 days storage in a dry shed and at 90°F.-60% relative humidity.

Variety	Treatment	Brix	Sucrose %	Reducing Sugars %	Total Sugars %	Reducing Sugars Sucrose
CP 29-320	Fresh	12.25	7.83	2.35	10.18	.30
	90°F.-60% RH	10.85	5.13	3.14	8.27	.61
	Shed	12.25	4.16	3.35	7.51	.80
CP 36-105	Fresh	12.00	7.13	3.02	10.15	.42
	90°F. 60% RH	13.20	7.94	3.09	11.03	.39
	Shed	13.45	8.46	3.35	11.81	.39
CP 44-101	Fresh	12.00	7.09	2.67	9.76	.38
	90°F.-60% RH	12.50	7.51	2.78	10.29	.37
	Shed	12.35	6.88	3.11	9.99	.45
CP 44-155	Fresh	12.10	7.42	3.08	10.50	.41
	90°F.-60% RH	11.90	6.78	3.11	9.89	.46
	Shed	11.10	5.24	3.53	8.77	.67

TABLE IV

Percentages of germination of 5 top-eye and 5 bottom-eye cuttings and 10 whole stalks of two varieties of sugarcane 21 days after planting in wood shavings, and kept at 85°F. and 95% relative humidity following various days of dry storage prior to planting.

Days of Storage	CP 44-101 Top Eye	CP 44-101 Bottom Eye	CP 44-101 Total	CP 36-105 Top Eye	CP 36-105 Bottom Eye	CP 36-105 Total	Average of 2 Varieties	Whole Stalks CP 44-101	Whole Stalks CP 36-105
0	45	50	47	44	27	36	42	36	12
2	59	27	42	61	43	52	47	43	32
3	45	37	41	62	41	51	46	58	31
4	62	90	76	77	32	55	65	57	51
5	78	69	73	96	46	71	72	65	47
6	81	48	64	89	67	78	71	70	57
7	74	96	86	87	72	80	83	66	53

The data in the table indicate that with both varieties there was a significant increase in germination after four days of storage. The data of Table V show that after the fourth day there was practically no geotropic bending.

Germination counts of whole stalks which were planted at the same time as the above mentioned stalks are shown at the right of this table. It is apparent from these data that the period of storage in which inversion takes place resulted in a stimulation in the rate of germination and increased the percentage of germination.

Further studies of this process indicated that the carbohydrate changes alone may not account for these increases. In the course of the work it was noted that cane which was stored under dry conditions lost its geotropic response.

The mechanics

The mechanics of this response for sugarcane and its auxin relationship have been pointed out by Brandes and McGuire.[5] It was found that as cane was stored for periods of 0 to 6 days there was progressively a lesser geotropic response. The data in Table V were obtained by expressing the amount of bending as the actual deviation of the tip of the stalk in inches from the horizontal in terms of a percentage of the total stalk length for the variety CP 44-101.

TABLE V

Percent of bending due to geotropic response of whole stalks of sugarcane variety CP 44-101, following various days of storage prior to planting

Days of Storage	% Bending
0	16.3
1	11.6
2	4.4
4	3.1
5	0.6
6	0.8

As is shown above, the bending varied from 16 percent for freshly-cut cane to 0.8 percent for cane that had been cut for six days.

Similar data were obtained from two tests with other varieties. With cane stored for eight days, the following percentages of bending were found:

	Fresh	Stored
CP 36-105	10.3%	1.2%
CP 34-120	8.7%	0.6%
CP 44-101	17.1%	0.2%

After nine days of storage another test showed the following percentages of bending.

CP 44-101	19.8%	0.5%
CP 36-105	9.3%	0.3%

Brandes and McGuire have shown that hot water treatment at 52° C for 20 minutes destroyed the geotropic response of sugarcane stalks and at the same time lower the auxin level as much as 50%. This lowering of the auxin level undoubtedly explains the breaking or weakening of apical dominance which is known to play a part in the germination of sugarcane cuttings. This hot water treatment is known to stimulate the germination and increase the percentage of germination 20-30 percent.

Further evidence of the relationship of the geotropic response to auxin level of the sugarcane stalks is demonstrated by a test in which various anti-auxin compounds were applied to the stalks and their resulting effect on bending measured. The following tabulation shows the percentages of bending for two varieties after the compounds were applied in lanolin to the nodes of the sugarcane stalk:

	Bending %	
Treatment	CP 36-105	CP 44-101
Untreated	21.3	23.4
Maleic Hydrazide 1 pph	19.0	14.1
Adenine Sulfate 55 pph	5.5	7.8
Trans-cinnamic acid 50 pph	11.3	12.6
2,4-dichoroanisole .05 pph	15.3	12.5

Conclusions

It has been demonstrated in two years' work with field plantings of sugarcane seed cuttings that there

SYNTHETIC SUGAR

The following article from the official publication of the Sugar Research Foundation *The Sugar Molecule*, Vol. VII, No. 3, intrigued us. It reads like an adventure story and we think you will enjoy it. *Editor.*

Solution of one of the classical problems of carbohydrate chemistry —the synthesis of common sugar— was announced by one of Sugar Research Foundation's Canadian project directors, Dr. Raymond U. Lemieux, at the 124th meeting of the American Chemical Society in Chicago. Associated with him was Dr. George Huber, a Swiss. Both are at work for the National Research Regional Laboratory in Saskatoon, Saskatchewan, where Dr. Lemieux is head of the Crop Utilization Section.

The result obtained by Dr. Lemieux and Dr. Huber was not the first or the only synthesis of sugar, which is technically sucrose, but it had never been done before by chemical methods. In 1945 an enzymatic synthesis was achieved at the University of California, Berkeley, by a team consisting of Dr. W. Z. Hassid, Dr. Michael Doudoroff, and Dr. H. A. Barker, who jointly shared a Sugar Research Foundation prize of $5,000 for their work. Neither the chemical nor the enzymatic synthesis of sucrose, however, holds even a remote possibility of commercial application: sugar made by nature in the cane and the beet is the most abundant compound produced in pure form, and one of the cheapest foods.

The real significance of the work of Dr. Lemieux and Dr. Huber is that it advances the understanding of certain basic properties of the central compound in nature—the substance commonly known as glucose—which forms a portion of the sugar molecule. This knowledge promises to make easier the synthesis of many complicated substances. It is highly probable, Dr. Lemieux believes, that the work will prove valuable in providing biochemists with a means for preparing sugar molecules labelled at specific positions with radioactive carbon atoms. This would permit scientists to trace the path of the sugar molecule in life processes.

The synthesis of sugar was in indirect result of fundamental research on the chemical properties of sugars being conducted by Dr. Lemieux and Dr. Huber. In the course of their work they pieced together research data from widely scattered sources, and the results suggested to them that, if their interpretations of the evidence were correct, it should be possible to synthesize common sugar. Although well aware of the long history of failure which had been written by

(Continued On Page 93)

is a stimulation in the rate of germination and in the final percentage of germination with cane that has been stored prior to planting as compared to freshly-cut seed cuttings. The final increase in germination is greater in varieties that are known to invert sucrose more rapidly than other varieties. During the storage period, inversion undoubtedly increases the ratio of reducing sugars within the cuttings, and this readily available carbohydrate supply is sufficient to support more rapid growth. Juice analyses before and after such periods of storage indicate that such changes take place.

The theory is also proposed that the stimulation due to storage is not entirely due to carbohydrate changes but also to changes in auxin relationship. It is shown that the period of storage brings about a lowering of the auxin level, as evidenced by the loss of geotropic response, similar to that caused by hot water treatment. Data are pre-

Big van used in treating cane to control the Stunting Disease. From left to right—Malcolm Lesseigne, of Godchaux Sugars, Inc., and Leon Nugent, who operated the unit for the American Sugar Cane League.

sented showing that a minimum period of four days is required to bring about this effect. A further indication of the role inversion plays is the fact that as storage periods are increased beyond four days further increases in germination are found. With the removal of the geotropic response it is shown that there is a breaking of the apical dominance.

The actual practical application of this information may seem somewhat remote. Under Louisiana conditions it is not feasible to allow the cane to dry in the field because of the possibility of rain at any time. Any storage would have to be done under shelter which is impractical. However, where dry weather is a certainty, storage in field for a period may be practical. Storage of seed cane prior to planting would have application in greenhouse work or for small plantings where the conservation of seed material is of utmost importance.

---

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[5] Brandes, E. W., R. C. McGuire, Auxin thermal relations in cell growth and geotropic reaction of sugarcane. **Amer. Journ. of Botany,** 38:381-389, 1951.

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SYNTHETIC SUGAR

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previous investigators, they decided there was enough hope of success to warrant risking the time and effort required.

Before braving the "Mt. Everest" of carbohydrate chemistry Dr. Lemieux tested his working hypothesis on another unclimbed peak in the field of carbohydrate chemistry—the synthesis of malt sugar, or maltose. As in the case of sucrose, many previous attempts to synthesize maltose had proved futile. The synthesis of maltose and sucrose have a common stumbling block in that in each case it is necessary to attach a glucose molecule to another substance in a certain configuration, or position in space. The problem presented by maltose was readily solved—in fact, the first assault conducted by Dr. Lemieux was successful.

The effort to synthesize sucrose was begun last April. A derivative of glucose which was first prepared more than twenty years ago was treated with a derivative of fructose, or fruit sugar. Provided that the new idea was correct, the two substances should have interacted to form a derivative of sugar which could be readily converted to sugar itself. The initial attempts were in vain, but the two chemists persisted and by early June, through refinements in technique, obtained a mixture which appeared to contain sucrose. The isolation of the sucrose from the complex mixture proved to be a major problem. Nevertheless, thanks to the powerful modern techniques available, this was accomplished and, by the latter part of

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June, sucrose was isolated in pure form.

The yield was about 5.5 per cent. Altogether several hundred milligrams—a fraction of an ounce—of sucrose has been synthesized so far. The synthesis confirms the current theory of the configuration, or position in space, of one major part of the sugar molecule.

In the course of the experiments, a third sugar was also synthesized for the first time. This substance, known as trehalose, occurs in some plants. This work was performed in collaboration with Dr. Herbert F. Bauer, a post-doctorate fellow from Austria.

Dr. Henry B. Hass, president of the Sugar Research Foundation, made the following comment on the Lemieux-Huber work:

"Like the conquest of Mt. Everest, the accomplishment of the synthesis of sucrose is exciting, interesting, and thrilling because so many eminent men tried and failed. Emil Fischer, great German chemist who first established carbohydrate chemistry on a firm foundation, tried to make sucrose by at least 20 different methods and failed.

"This is an important contribution to scientific concepts of chemical mechanisms. Sugar is central to our whole economy, not only the economy of our civilized society, but to the plant and animal world, since all the energy of the sun which is used by nature starts out as sugar, formed in plants by the chemical process of photosynthesis.'

But as to any immediate commercial exploitation of the synthesis of sugar, Dr. Hass said: "It is as unlikely as the possibility that some real estate agency will have Mt. Everest cut up into lots and sold for development."

IN THE FIELD

(Continued From Page 85)

could be exchanged. After the harvest the jointly owned equipment, with the exception of the loader attachment and the wagons, could be used in the cultivation of the three crops.

No mention has been made as to how this cooperative equipment can be owned and maintained or upon what basis each farmer shares in the expense, but certainly these details can be worked out to the satisfaction of the parties concerned.

No arrangement will work in actual practice as explained above, but there are many places on small farms for cooperatively owned and operated equipment. In business, where profits are at stake, many transactions work smoothly because the results are rewarding.

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sume picketing.

Mr. Justice Hugo Black, to whom the application was presented, submitted it to the entire Court for review and consideration. On Saturday, December 5th Justice Black issued the following statement, "After presenting the application for stay to the full Court, it is denied."

We presume that the Union will try some other method of approach but for the time being, at least, the danger of a crippling strike in the fields seems to have passed.

Mill Marketing Quotas

In the November 1, 1953 issue of *"THE SUGAR BULLETIN"* we printed the Government's version of the revised 1953 marketing quotas for the mills of the mainland sugar cane area. The testimony appeared on pages 74 and 75 and contained a revised list of the 1953 quotas for each mill. The revised quotas appeared in the Federal Register of December 5, 1953 and are now official.

Hot Air Treatment

The chief of our hot air department advises us that the experiment of treating cane in the big van pictured on page 92 is over for the season. A total of approximately 111 tons of cane have been subjected to the heated air in an experiment to control the Stunting Disease. The heating unit was used at a number of Secondary Stations throughout the sugar district, but it was not possible to get around to all of them.

Merry Christmas

The folks here in the office join with me in wishing all of you a Merry Christmas, and a Happy New Year.

1954 Consumption

FLASH—December 14, 1953. The following wire was received from Joe Ferris late today.

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drainage work	poor	excellent ✓	takes tracks and power for this

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The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
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by A. W. DYKERS

Happy New Year

Well, we made it folks. Here we are again enjoying the high privilege of wishing you a Happy and Prosperous New Year.

Last year about this time we wrote a little piece expressing the hope that 1953 would bring you at least your share of the good things of life and it is our sincere hope that you have not been disappointed.

There is one statement that we can make about 1953 without fear of contradiction, and that is that the year now drawing to a close has been the busiest year that the American Sugar Cane League has had in a long, long time. Mill marketing quotas, proportionate share acreage allotments, and the strike, have really kept your hired help hopping. But 1953 has also been the finest year that your League has ever known.

The accomplishments of the past twelve months by the American Sugar Cane League, under the guidance of the many people who work so hard on the various committees that shape the destinies of your League, have earned the respect of everyone in the Louisiana sugar business, and it is good to be able to report that the people of the Louisiana sugar industry are closer together now than at any time since the founding of the American Sugar Cane League way back in 1922.

Right now it looks like 1954 will be another busy year. Mill marketing allotments and acreage restrictions will definitely be with us and, perhaps the National Agricultural Workers' Union will try again to disrupt the friendly relation between you and your field workers, but 1954, and the years ahead, will be better years because we have learned in 1953 that helping one another is good for all of us.

Again may we wish you a Happy and Prosperous New Year.

Praise For Mr. Lauden

Our good friend and co-worker, Lloyd L. Lauden, who writes the "In The Field" column in each issue of *The Sugar Bulletin*, has received a nice letter from Mr. Jules A. Dornier, Jr., Manager of the Helvetia Sugar Cooperative, Inc., of Central, La., relative to the article that Lloyd wrote in our issue of December 15th. We believe that you will enjoy reading Mr. Dornier's letter. Here is what he wrote:

"After reading your article in the Dec. 15, issue of the Sugar Bulletin I thought I would write you and enclose a copy of our amended cane purchase contract that we used this past season exactly as you describe.

"One of our largest shippers Waguespack Bros. combined their operations on two farms and harvested over 20,000 tons with one hauling unit where before they were using two separate units. Henry Dornier and two other farmers combined their operations as did two growers from the Gonzales area. I feel that a tremendous saving could be affected if a cane harvester and cane loader could be utilized to their full ca-

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SUGAR REQUIREMENTS FOR 1954 ESTABLISHED

Secretary of Agriculture Ezra Taft Benson announced on December 14, 1953 the sugar quotas for 1954 totalling 8,000,000 short tons, raw value. This quantity is 400,000 tons less than would be needed at the rate of disappearance during the 1952-53 base period, adjusted for increasing population. It is necessary to withhold this quantity, the Secretary said, in view of possible stock-piling during December, and to establish stable prices at levels required by the Sugar Act of 1948. In the initial determination for 1953 a similar 400,000 ton allowance was made in establishing quota requirements at 7,800,000 tons. The 1953 quotas are currently established at 8,100,000 tons.

Quotas for individual areas and countries for 1954 are as follows:

Area or country	Short tons, raw value
Domestic beet sugar	1,800,000
Mainland cane sugar	500,000
Hawaii	1,052,000
Puerto Rico	1,080,000
Virgin Islands	12,000
Republic of the Philippines	974,000
Cuba	2,478,720
Dominican Republic	25,647
El Salvador	3,843
Haiti	2,482
Mexico	10,634
Nicaragua	7,269
Peru	48,241
Other countries	5,164
TOTAL	8,000,000

UP FRONT

(Continued from page 100)

pacity and the day may not be too far off where harvesting of cane will be something like the wheat harvest where they start in Texas and wind up in Minnesota; of course at the present time there are some small growers who get their cane cut too far in advance and it would be much better for the mills to allow each small grower to haul all the cane that he has on the ground even though he could only make one delivery a week, the trouble with stale cane can very quickly get out of hand.

"With best wishes to you and the other members of the American Sugar Cane League for the Holiday Season."

C. J. Bourg Dies

As we go to press, news is received of the death in Washington, D. C. of Clarence J. Bourg, Vice President Emeritus of the American Sugar Cane League, who for years managed the Washington office of your League.

Mr. Bourg pased away during the night of December 28th. We will pay our respects to his memory in the next issue of *The Sugar Bulletin.*

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IN THE FIELD WITH LLOYD LAUDEN

The Harvester-Cleaner-Loader

I have heard many opinions this harvesting season, many favorable and some unfavorable, about the new harvester - cleaner - loader developed by The Thomson Machinery Co., Inc. of Thibodaux, Louisiana. The argument that I take staunch exception to is the one that insists that all that is needed in a good harvester is one that will cut, clean and place cane on the row. The first follow-up statement to this comment is "we already have a good machine to pick-up and load the cane." The second follow-up statement is "we want some cane down on the ground ahead of the loader that will allow us to continue hauling to the mill in the event of a harvester break down." Another follow-up statement is that "with the harvester-cleaner-loader our entire cane delivery is dependent upon one piece of machinery."

This argument with the follow-ups should be carefully studied by those sharing this view. On the surface this comment, with follow-ups, appears constructive and well warranted, but upon closer examination several big loopholes will be observed. A harvester that will cut, clean and place cane on the ground will accomplish only one thing that the present harvester will not accomplish and that is the elimination of leaves. Placing the cane on the ground to be picked-up by a loader will not eliminate the mud problem. Why should the cane ever be placed on the ground? It is granted that the conventional harvester can be used to store cane ahead of the loader, but this cane is stored in the field. With a harvester - cleaner - loader combination cane can also be stored, but at a better place. Cane can be stored at the field hoist which is actually one step ahead of the conventional harvester. It is not the intent here to advocate storage of cane, either in the field, or at the hoist, but merely to point out that cane can be stored when this new machine is used. The follow-up statement to the comment against the new machine, "this way our entire cane delivery is dependent on one piece of machinery" is a statement which also can be made about our present method of harvesting. A break down of the present loader will also stop delivery of cane to the mill.

It is well established that the delivery of clean, fresh cane to the mill will help not only the farmer but the factory as well. Data from factories as well as from the Louisiana State University prove that clean, fresh cane results in better sucrose and purities for the farmer and more sugar in the bag for the processor.

A considerable amount of interest in the purchase of this harvester-cleaner-loader combination has already been shown. The Thomson Machinery Co., Inc. can also install the cleaner loader attachment to any of their conventional harvesters manufactured since 1947. The adaptation of the cleaner-loader-attachment to the conventional harvester should certainly boost the accept-

(Continued on page 111)

IN WASHINGTON WITH JOE FERRIS

Looking Backward

The year 1953 has been full of financial ups and downs. Despite Administration promises to keep everything on an even keel the farmers are groggy—and domestic sugar producers too.

General farm prices declined nearly 8 per cent. Farm income dropped 7 per cent. Likewise farm land values declined and debts increased. The sugar market — but perhaps we had better not go into that here. It is always darkest before dawn. Let us hope that dawn will soon break on a new and better day for domestic sugar producers.

And Forward!

A year ago the President promised better sugar prices. Secretary of Agriculture Benson, with the backing of President Eisenhower and the help of 18 members of the agricultural advisory commission, composed of farm educators and leaders, is hard at work giving the final touches to a new farm program for presentation to Congress early this year.

A new federal housing program also is being considered; the armament program will be continued at full speed; bank credits will be eased, all in an effort to bolster waning confidence in the Republican administration.

G.O.P. leaders in Congress say they have their sleeves rolled up ready to go to work and make it possible for President Eisenhower to keep his promises.

Will Ike do it in 1954?

Final 1954 Quota Changes

The U. S. Department of Agriculture announced on December 18 that refiners who have over-quota sugar under bond will be permitted

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SUGAR MARKET STATISTICS THROUGH DECEMBER 24, 1953

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.05	6.15	6.05
QUOTA RAWS DELIVERED NEW ORLEANS	6.00	6.11	6.01
WORLD SPOT RAWS (In Cuba)	3.30	3.12	3.70

SUGAR FUTURES No. 6
(Closing Bid Prices)

	March	1954 May	July	Sept.
Today	5.49	5.54	5.69	5.74
1 Month Ago	5.53	5.50	5.63	5.69
1 Year Ago	5.50	5.62	5.82	5.88

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	None	1,643,742 bags
Godchaux	None	1,557,823 bags
Colonial	None	1,255,235 bags
Henderson	None	471,615 bags
Southdown	None	250,295 bags
South Coast	None	598,590 bags
Sterling	None	None
Supreme	None	728,701 bags
Totals	None	6,506,001 bags

IN WASHINGTON

to meet the inventory requirements of the bonds with sugar they hold in any location on December 31, 1953.

The announcement is based on an amendment of the Notice, issued December 2, 1953, which permitted the entry under bond of sugar to be refined for distribution in 1954. The Notice required over-quota stocks to be held at refineries. Today's amendment under which the sugar may be held in any location will permit better distribution of the available sugar supplies in relation to existing demand.

BEST WISHES —
For a Happy
AND PROSPEROUS 1954

IN THE FIELD

(Continued from page 109)

ance of this machine.

During the time the Thomson Machinery Co., Inc. was developing its machine, Mr. R. M. Ramp, Engineer with the U.S.D.A., Houma, Louisiana was also working on a combination harvester-cleaner-loader. This machine was in the field this season, but the results are not yet available.

Any machine that will cut, clean, and load cane directly into a wagon without first placing the cane on the ground will serve the industry to great advantage. Not only will the amount of mud taken to the mill be eliminated but the amount of stale cane milled will be minimized with the resulting benefits being shared by all.

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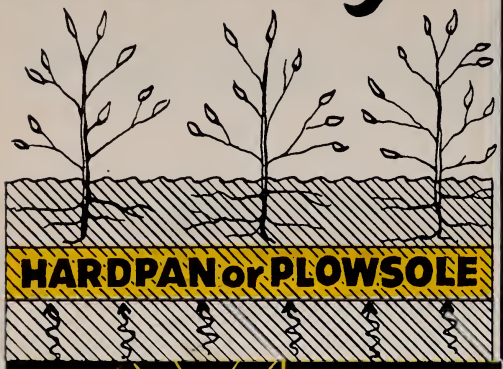

Impervious layers below the top-soil limit crop production to that top few inches. Such soil is poorly aerated, in poor physical condition, and incapable of supporting good crops.

Deep tillage tools, mounted on the Cat Tool Bar, get down deep. Deep tillage shatters and breaks up impervious layers so roots can grow. Feeding zones are deepened; bigger and better crops result. It takes POWER for deep tillage, power that comes only from Caterpillar Diesel Crawler Tractors. Ask your county agent: then . . . Name the Date, We'll Demonstrate.

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THE SUGAR BULLETIN

Vol. 32—No. 8 JANUARY 15, 1954

Official Bulletin of the American Sugar Cane League of the U. S. A.

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414 Whitney Bldg., New Orleans 12
Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor
Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Clarence J. Bourg

Our friend Clarence J. Bourg died in Washington, D. C., on December 28th, 1953.

On August 20, 1929 Mr. Bourg was named the Manager of the Washington Office of the American Sugar Cane League and on that day he began an outstanding career of service to the Louisiana sugar industry that lasted for almost a quarter of a century. His health failed in 1951 but by then he had made Louisiana a power in the domestic sugar industry.

When Mr. Bourg relinquished his duties as the Manager of our Washington office to become vice-president Emeritus of the American Sugar Cane League, his friend, Senator Allen J. Ellender, paid tribute to him in a broadcast over station WWL in New Orleans. We believe that it is fitting at this time to repeat the Senator's remarks. On October 16th 1951, Senator Ellender said:

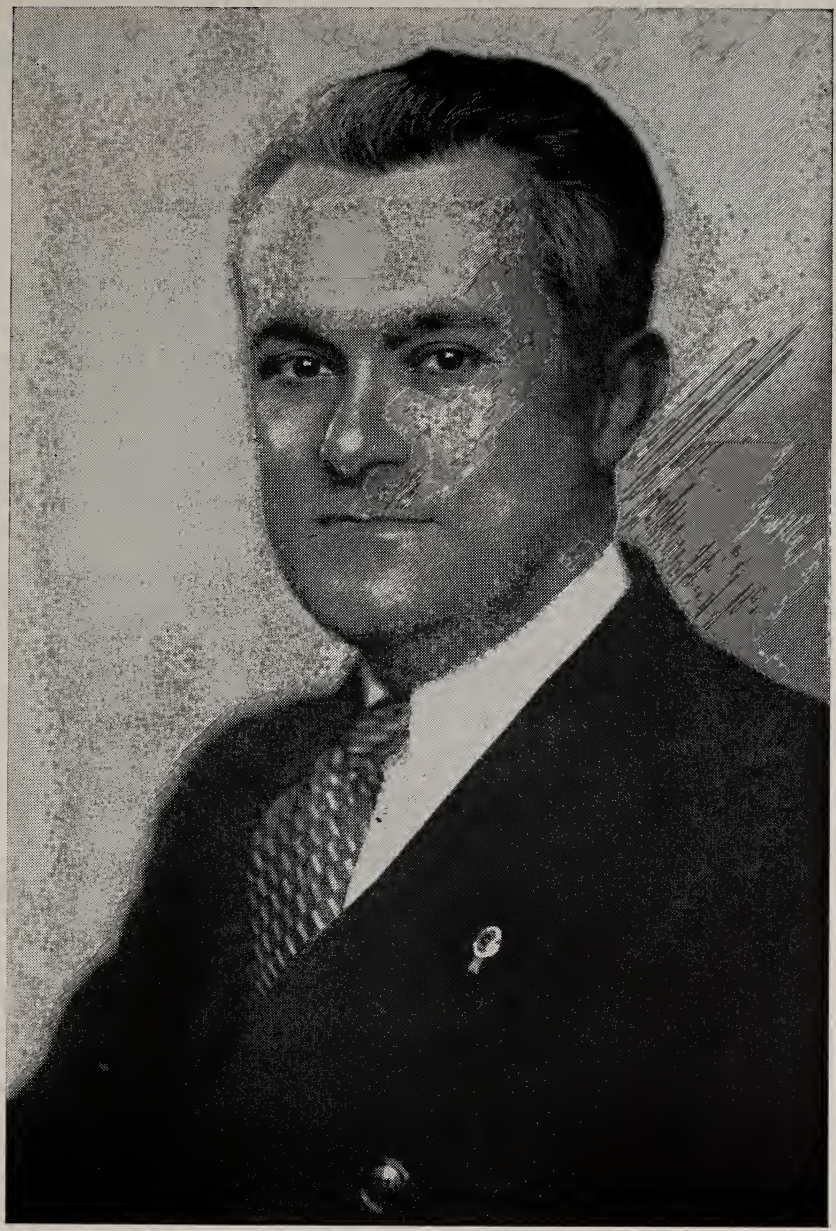
"Ladies and Gentlemen, before closing this program, I should like to pay tribute to my good friend, Clarence Bourg, Vice President of the American Sugar Cane League and for the past twenty-two years manager of the League's Washington office. Clarence is retiring to private life this year. Since 1929, this spokesman for the Louisiana sugarcane farmers has worked unceasingly and untiringly to obtain for our sugarcane farmers a realistic government program under which the domestic industry might be able to prosper despite the ruinous competition of offshore producers, whose low labor costs have historically enabled them to undersell our own farmers.

Many of you will remember the plight of the domestic sugar industry in the dark days of 1929 and the early 1930's. At that time the only protection afforded our producers was in the form of a tariff on imports from foreign countries, but this import duty did little good in the face of cut-throat selling on the part of the Philippines and Cuba. Partly through Clarence Bourg's efforts the Sugar Act of 1934, commonly known as the Jones-Costigan Act, was enacted by Congress, under which a system of quotas was established, coupled with the imposition of a processing tax on refined sugar and provision for production payments to domestic growers.

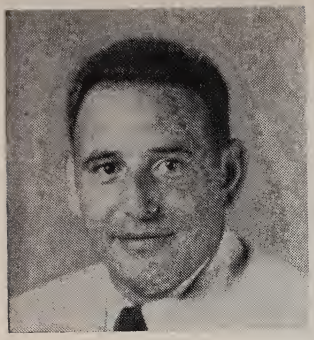
The Sugar Act of 1934 has been revised, extended, and improved upon several times, the last extension having been approved by the Congress during the past summer. I think it is highly significant, and indicative of the splendid job Clarence Bourg has done in presenting to the nation the true story of our domestic sugar industry, that the Sugar Act of 1951 passed the House of Representatives without a dissenting vote, and was approved in the Senate by the overwhelming count of 72 to 4. When we look back at the spirited fights on early sugar legislation, we can readily understand how much in national stature the domestic industry has risen during the intervening years.

Clarence Bourg's retirement from the active Washington scene will mean a loss to the Louisiana sugarcane farmers, but he leaves the industry with a sound, well-rounded, and workable Sugar Act that will remain effective until 1956. We in Washington will miss the helping hand that he has provided whenever problems involving sugar have come up for consideration, for his assistance in furnishing the Con-

(Continued On Page 126)



CLARENCE J. BOURG
1893 - 1953



IN THE FIELD WITH LLOYD LAUDEN

Row Spacings

Distance between rows, or row spacing, for sugar cane was mentioned in this column early last summer. Since that time the U.S.D.A. Sugar Station, Houma, Lousiana, the Agricultural Engineering Department of Louisiana State University, Cinclare Plantation, Cinclare, Lousiana, and the American Sugar Cane League have entered into a cooperative experiment to determine if a row spacing narrower than the conventional 5½ or 6 foot spacing would result in increased yields.

In this experiment, row spacings of 44 inches and 57 inches will be compared with the conventional 72 inch spacing. Two rates of nitrogen fertilizer will be used to determine if narrower spacings of rows will require additional nitrogen fertilizer.

In other crops, corn for example, yields have been improved by increasing the number of plants per acre. Cane, however, differs from corn in that a good stand of cane is one in which the drill is covered allowing little or no place for additional suckers. Therefore, the only possible way to increase the number of plants per acre in cane would be to narrow the distance between rows. Data from the work conducted by Dr. Stubbs using the old Louisiana Purple and other Noble Canes indicated a small increase by narrowing the distance between cane rows, but this increase was not considered economical at that time.

Even though the work done by Dr. Stubbs, on row spacing using the old Noble varieties, did not result in economical returns, experiments on row spacings now, using present commercial varieties, could prove quite different. Perhaps the old Noble varieties, because of their excellent umbrella shading habit, required a wide spacing of rows. It must also be remembered that the sugar industry in the year 1900 had not once considered a 90 pound application of nitrogen per acre. The commercial varieties now in use are so erect that little or no shade is offered from the tops, therefore, narrowing rows today will not prevent the entrance of sunlight. If more fertilizer is necessary with narrower rows, then more fertilizer can be applied. Farmers today are very much aware of the benefit derived from the use of fertilizer. Having adequate plant food and sufficient sunlight, a plant in a good seedbed requires only water to fulfill its requirements. More plants per acre will necessarily require more water and, therefore, water could become a limiting factor.

Many problems in cultivation and harvesting would be encountered by a change to a narrower spacing. New machinery would not necessarily have to be purchased but certainly a considerable amount of conversion would have to be done. Most of the equipment used in the cultivation and harvesting of sugar cane is either specially designed or is specially modified to fit the wide row used in sugar cane.

Using 4 foot rows rather than 6

(Continued On Page 126)

IN WASHINGTON WITH JOE FERRIS

Sugar Ads

All segments of the sugar industry which supply United States consumers have joined in an educational campaign to emphasize the place of sugar in the balanced diet.

Announcement of the nationwide advertising and public relations campaign was made by Ernest W. Greene, President of Sugar Association, Inc., whose membership includes cane and beet sugar producers, refiners and processors in the Continental United States, Hawaii, Puerto Rico, Cuba and the Dominican Republic.

The program will emphasize advertising in national magazines, daily newspapers and trade papers and will include a broad public relations activity.

"The central theme of the campaign, at least in its initial phases," Mr. Greene said, "will deal with the problems of obesity and over-weight. Research clearly demonstrates that in normal persons, the intense hunger which leads to over-eating and to consequent over-weight is often caused by a low blood sugar level. By eating or drinking something containing sugar, blood sugar levels are raised in a matter of minutes and the intense desire to eat is thus relieved."

The first advertisements in the series will appear in newspapers January 14th and 15th. The New Orleans Times-Picayune will carry the ad on those dates.

Advertisements will also appear in Life on January 18th, the Saturday Evening Post on January 23rd, the New Yorker on February 20th, Look on February 23rd, and in the March issue of the Ladies Home Journal.

Leo Burnett Company, Inc. is the advertising agency and Selvage, Lee & Chase is the public relations counsel.

A Rocky Road

The Administration's proposed farm program will have a rough time in Congress. Both Republicans and Democrats are sniping at it from every angle. The only individuals who seem to like it are President Eisenhower and Secretary of Agriculture Benson.

In his message to Congress on January 12th, the President enumerated his views on various agricultural commodities. With respect to sugar, the President recommended extension of the sugar program in its present form. He said that this program is "operating in a generally satisfactory manner."

Secretary Benson has accepted an invitation to appear before the Senate Committee on Agriculture and Forestry January 18th with regard to the general agricultural outlook and details of the President's farm program.

No definite date for a hearing on the President's farm program has been set by Chairman Hope of the House Committee on Agriculture. A member of the staff said the Committee probably would begin hearings about the middle of February.

Cuba to Entertain Congressmen

Members of the House Committee on Agriculture and their wives have

(Continued On Page 126)

SUCCESSFUL ESTABLISHMENT OF SUGARCANE BORER PARASITES IN LOUISIANA IN 1953

By Leon J. Charpentier, USDA, Agricultural Research Service

Entomologists at the Houma, La., laboratory for sugarcane research have made various attempts to obtain effective biological control of the sugarcane borer *(Diatraea saccharalis)* in Louisiana by introducing parasites that attack the borer and related species in this country or in foreign countries. Two of the parasites introduced 10 to 20 years ago, the Amazon fly *(Metagonistylum minense)* and the Cuban fly *(Lixophaga diatraeae)*, did become established and were recovered for several years following their release, indicating their ability to survive the winter in Louisiana. However, neither of these parasites has increased in sufficient numbers to be of any aid in control of the borer.

Present conditions in the State are considered to be more favorable for the establishment and maintenance of larval parasites than they were when most of the introductions were made. Borer infestations have been increasing, presumably owing to (1) increased plantings of borer-susceptible varieties of sugarcane, (2) increased acreages of summer-planted cane, which usually becomes heavily infested before winter and successfully harbors a large winter population, (3) more trash containing borers left in the fields because of uneven topping of sugarcane by mechanical harvesters, and (4) a general labor shortage which has limited scrapping. Additional introductions of parasites for further testing against the sugarcane borer under present conditions are therefore considered desirable.

In a preliminary test in 1953,* 1,409 Cuban flies and 1,079 Amazon flies emerging from puparia obtained from the Commonwealth Bureau of Biological Control in Trinidad, British West Indies, and 59 Peruvian flies (*Parathersia claripalpis*) reared from puparia received from the Bureau of Entomology and Plant Quarantine laboratory in Mexico City were released in four localities in Louisiana. The releases were made in carefully selected fields of borer-susceptible varieties of sugarcane in which all

TABLE 1. RELEASES AND RECOVERIES OF SUGARCANE BORER PARASITES IN LOUISIANA IN 1953.

Location	Dates of release	Number released			Dates of recovery	Number of release points surveyed	Number of borers and parasites collected	Percent parasitization		
		Amazon fly	Cuban fly	Total				By Amazon fly	By Cuban fly	Total
Cut Off, Clovelly	June 29; July 1, 6, 13, 18, 21, 26, 31; Aug. 7, 17, 20	649	507	1,156	Oct. 8, 9	6	167	15.9	4.9	20.8
Houma:										
Woodlawn	July 10, 14, 22; Aug. 3, 8, 21	96	452	548	Sept. 28	3	120	11.7	22.5	34.2
Ranch	July 15, 25, 30; Aug. 5, 24, 26, 29; Sept. 1	137	357	494	Oct. 1, 2, 5	3	174	7.5	26.4	33.9
Dulac	July 13, 20, 24	200	93	293	Sept. 30; Oct. 6, 7	3	245	8.4	47.1	55.5
Total or average		1,082	1,409	2,491		15	706	10.9	25.2	36.1

(Continued On Page 125)

DR. EFFERSON TO HEAD STATE EXPERIMENT STATION

Dr. J. Norman Efferson, who becomes Director of the Louisiana State University Agricultural Experiment Station upon the retirement of Director W. G. Taggart next June 30, is a farm-reared Louisiana man who has achieved worldwide recognition in his work and is well known in the sugar industry for his economic studies on the operation of sugar cane farms and sugar mills in Louisiana. Dr. Effersons's appointment to succeed Mr. Taggart was approved by the L. S. U. Board of Supervisors at a recent meeting of the Board.

Dr. Efferson, who is 41 years old, has been serving as Professor of Agricultural Economics at L. S. U. and Agricultural Economist of the Experiment Station. He was reared on a sugar cane, truck crop and dairy farm in East Baton Rouge Parish, was graduated from L. S. U. with a B. S. in agriculture in 1934, and later received the M. S. and Phd. D. degrees from Cornell University, where his principal studies were agricultural economics, farm management, marketing and agronomy. He has also served as Vocational Agricultural teacher at Welsh, Louisiana; Research Assistant in Agricultural Economics, New York State College of Agriculture; Professor of Agricultural Economics, Cornell University; and International Commodity Specialist, United States Department of Agriculture.

Dr. Efferson is a world famous authority on the economic side of rice production and has also conducted economic studies on dairy, sugar cane, beef cattle, strawberry, cotton and truck crop industries in Louisiana. As Agricultural Economist of the Experiment Station he has made detailed studies of the costs and returns from operation of family-type sugar cane farms, large sugar cane farms and raw sugar mills in Louisiana each year since 1937. Data from these studies have been widely used by the Louisiana sugar industry.

DR. EFFERSON

Dr. Efferson has also visited numerous countries in Europe, Asia, Africa, Central America and South America on special studies for the U. S. Department of Agriculture and the Rockefeller Foundation. He is the author of five books, including "Farm Records and Accounts," "The Production and Marketing of Rice," and "Principles of Farm Management," all of which have come to be regarded as standard works in their field, and has written more than 60 research publications and numerous magazine articles. He served as a member of the national Land-Grant College Post-War Policy Committee from 1944 to 1946 and is currently acting as consultant to the Rockfeller Foundation and the American International Association for Economic Development on agricultural research programs and planning. He is listed in "Who's Who in America."

Mr. Taggart is retiring as Ex-

(Continued On Page 125)

DEEP TILLAGE

By Henry C. Storey, Agricultural Representative, Boyce-Harvey Machinery, Inc.

In 1933 a very interesting tillage experient was carried out at Reserve, Louisiana, under the direction of the late Walter Godchaux, for the purpose of determining the benefits to be derived from deep plowing.

The results were astonishing. Here is what a report by C. L. Denley says about this experiment. At that time Mr. Denley was associated with Godchaux Sugars in the research department, and he is presently Manager of the Ashland Division of the South Coast Corporation, Montegut, Louisiana.

"On plots prepared in the usual manner, increased yields were secured from the application of fertilizer with irrigation and also without fertilizer with irrigation, and also without irrigation. However, on plots prepared by deep tillage, no increase in yields was secured from the application of fertilizer or from irrigation. Furthermore, these plots, with no fertilizer and no irrigation, gave higher yields than the plots with ordinary preparation which were irrigated and given fertilizer applications."

Just think, in this case deep tillage produced higher yields of cane than the application of fertilizer and irrigation—at less cost!

Some might say, "yes, but that was in 1933. Methods have changed —things are different now. That was just one experinment." Well let's examine the record.

Mr. F. A. Graugnard Jr., F. A. Graugnard & Sons, St. James, Louisiana, states in a letter directed to me under date of June 26th, 1953:

"We are very happy to tell you how we feel about deep plowing. We are convinced of the advantages of such a practice in the preparation of our sugar cane soil. In every instance the yield of sugar cane from land that was deep plowed against the check showed an increase of six to ten tons of sugar cane per acre. None of our deep plowed acreage yielded less than thirty tons of sugar cane per acre as compared with an over all plantation average of 24.2 tons per acre (including deep plowed acreage). The growth of the sugar cane was adversely affected in either case by the dry summer, but the cane in the deep plowed land maintained a better color and recovered more quickly when it rained than did the check plot.

"We are not in position to furnish you with stand counts; therefore cannot make those comparisons.

"The sucrose and purity analysis were comparable in both instances.

"The physical workability of the soil was considerably improved and we experienced better load bearing characteristics on the deep plowed land than the check. This feature was of interest to us since we did not know how deep plowed land would react to harvesting under wet conditions.

"You will bear in mind that our reference to deep plowing means plowing a depth of sixteen to eighteen inches."

Could anything be more explicit? And that wasn't something that happened 20 years ago. It happened last year.

A couple of months ago Mr. John C. Best, Manager of Catherine Sugar Company, Inc., Lobdell, Louisiana, told me that he has increased his yield per acre approximately 10 tons. Mr. Best states, "I attribute this increase in yield to several things—better cane varieties, chemical weed control, more fertilizer, but mainly to deeper tillage."

Mr. Best wasn't talking about something that happened before the war. He was talking about his last two or three cane crops.

In Puerto Rico, where 90 tons of

sugar cane per acre is not uncommon, deep plowing is customary. In Hawaii, Ewa Plantation, on the Island of Oahu averaged 18 tons of SUGAR per acre in 1952 (well over 100 tons of cane). This is the highest production in the world. Mr. James Orrick, Manager of Ewa told me, "We attempt to plow 26" in depth."

So deep tillage is not something new and untried. It is a proven aid to better crops. How it should be carried out—whether it should be accomplished by turning the soil over, by subsoiling with chisels or other means depends on the particular local conditions. Your Soil Conservationist, County Agent or Experimental Station should be consulted on this problem.

The other day I was talking to a farmer about deep plowing and subsoiling and he said, "but if we use up the under layer of soil, what reserve will be left for future generations." This farmer had been farming the top few inches of his land for years, knowing that he was using up its productive ability, in the belief that he was conserving the subsoil for his progeny. Although I doubt if many of us take this extreme point of view, it remains a fact that tillage in cane fields of Louisiana seldom exceeds 8" in depth.

Why is deep tillage beneficial? Mr. D. L. Fontenot, State Soil Scientist, Soil Conservation Service, states that he has observed that by extending the depth of the seed bed the soil receives greater aeration and increases the effectiveness of the moisture it receives. He says that deep loose soils seem to warm up earlier in the spring, and surface and internal drainage is improved.

We are told that it requires about 4" of soil to absorb 1" of rainfall and 1" of rainfall (in the soil) to maintain plant growth for 10 days. This would mean that with a sufficiently deep seed bed only 36" of ranifall would be required per year. Our average rainfall, in South Louisiana, is in excess of 50" per year —more than enough for plant growth.

Is this just theory? Let's see. Mr. Bronier Thibaut, Manager of Glenwood Cooperative, Inc., Napoleonville, Louisiana, stated that a weekly comparison was made between his cane at Glenwood and the neighboring cane fields of another of his plantations. One week after the drought started last June his cane which was in deep plowed land, continued to grow while the cane on the neighboring plantation, which was in shallower plowed land, ceased to grow. Mr. Thibaut declares that as far as he knows the only difference between the cane plots checked was the depth of tillage. The deeper tilth had stored more moisture against the dry season.

Another important reason for deep tillage is that under much of the cultivated land in South Louisiana lies a hard, rock like layer of soil. This layer varies in depth and thickness and is frequently referred to as a hard pan. As there is very little true hardpan in this area the condition is actually plowpan or plow sole. This condition restricts the development of the root system and free movement of air and water in the soil.

Mr. D. L. Fontenot states that as far as treatment purposes are concerned plowpan and plow sole may be considered the same. They are formed in several ways. The most common and extensive is formed by the compaction from equipment wheels. They become most troublesome when fields are not properly broken in soils low in organic matter. The common practice of bedding next year's row in last year's water furrow without good breaking will always bring about this harmful condition. That means that about all the effective soil depth for plant roots is that loose dirt added to the old water furrow in bedding. This will vary with the width of the

row and the height of the bed.

A very similar condition, but much less common, is the packing action of the heel and runner of the plow when run at the same depth year after year. You have all seen the smooth face in a furrow following the turned furrow slice."

Is deep plowing only beneficial to the growth of sugar cane? Certainly not. Last Spring several acres of pasture land were subsoiled on the farm of Leopold Noel, down in the Teche Country. Here is what Mr. Noel says in a letter addressed to me under date of November 17, 1953:

"In February of 1953 an agricultural demonstration was held on my farm in Abbeville. This field, which consisted of about five acres, was planted in Dallas and Bermuda grass. The land was subsoiled to a depth of from ten to twelve inches, breaking the hardpan. Rainfall is no longer blocked off from the subsoil. It soaks in deep and there is an ample supply of moisture, even in the dryest weather. Mr. Murphy Veillon, County Agent of Vermillion Parish, agrees that this method of deep tillage has increased my grass production from 20 to 30 per cent."

Mr. P. L. Broussard, also of Abbeville, had 40 acres of his pasture land subsoiled in March of 1953. This work was done in a 100 acre field and the other 60 acres served as a checkplot. At the end of the 8-week drought, early in the fall, the following condition was observed in his pasture: In the 60 acre check plot, the grass although about 4 to 6 inches high was dry and brown. But in the 40 acres, which had been subsoiled, to break the severe pan condition, the grass was quite green, but cropped close to the ground. Every animal on the 100 acres was grazing in that 40-acre plot.

To supplement the benefits of deep tillage, agricultural authorities recommend that deep rooted crops be planted to hold the soil open in order to increase the free passage of air and water through the soil. Naturally if any soil is very low in organic matter or deficient in certain minerals, the addition of the required minerals will increase its productivity.

In summing up I would like to borrow from the wisdom of J. Norman Efferson, Agricultural Economist, L. S. U. Mr. Efferson tells us that the most important single factor in cane farming today is *yield per acre.* The higher the yield per acre the higher the profit—in good years and bad, and the lower the cost. He also tells us that because Louisiana is considered to be in the high rainfall belt drainage is also a most important factor. Deep tillage will insure better drainage—not by carrying the water off the land where it will be lost, but by carrying it below the surface where it can be stored until it is needed. Deep tillage will increase the yield per acre by extending the root system and providing better aeration—at no extra cost.

So if you want to increase your tonnage and your profit—and at the same time lower your cost of operation through deep tillage see your Soil Conservationist and your farm power contractor and get started right away on a program aimed at achieving these goals.

WEEKLY AVERAGE PRICES

Weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1953-54 pricing period have been as follows:

Week ending October 15, 1953
Raws 6.40, Blackstrap 11.00 cents.

Week ending October 22, 1953
Raws 6.35, Blackstrap 11.00 cents.

Week ending October 29, 1953
Raws 6.34, Blackstrap 10.46

Week ending November 5, 1953
Raws 6.315, Blackstrap 9.625 cents.

Week ending November 12, 1953
Raws 6.13, Blackstrap 8.96 cents.

Week ending November 19, 1953
Raws 6.01, Blackstrap 9.00 cents.

Week ending November 26, 1953
Raws 6.09, Blackstrap 9.06 cents.

Week Ending December 3, 1953
Raws 6.16, Blackstrap 9.55 cents.

Week Ending December 10, 1953
Raws 6.03, Blackstrap 9.925 cents.

Week ending December 17, 1953
Raws 5.92, Blackstrap 10.03 cents

Week ending December 24, 1953
Raws 5.93, Blackstrap 10.275 cents

Week ending December 31, 1953
Raws 6.02, Blackstrap 10.50 cents.

Week ending January 7, 1954
Raws 6.00, Blackstrap 10.44 cents

SEASON'S AVERAGE THROUGH JANUARY 7, 1954
Raws 6.13, Blackstrap 9.99 cents

—o—

DR. EFFERSON

(Continued From Page 121)

periment Station Director June 30 after 48 years of service with the station. He began as an assistant chemist on the staff in 1906, served as Assistant Director of the old Sugar Station when it was located in New Orleans, was named Assistant Director of the Louisiana Station in 1923, and became Director of the station on September 15, 1941. Work of the station was greatly expanded during his tenure as Director, with research being conducted in many new fields. Mr. Taggart has been honored by numerous organizations for his contributions to Louisiana agriculture and in 1947 was named "Man of the Year in Louisiana Agriculture" by the editors of "The Progressive Farmer."

PARASITES

(Continued From Page 120)

sizes of borer larvae were present. Two of the localities were selected also because of their proximity to fields scheduled for summer planting, on the assumption that if the parasites should become established they would spread to the summer plant and their chances of winter survival would be increased.

Release and recovery data for the Cuban and Amazon flies are given in table 1. Both of these parasites were recovered in the four release localities. Contrary to past record, the performance of the Cuban fly was more conspicious than that of the Amazon fly. The most spectacular performance of either parasite was observed in a recovery collection in one field at Dulac in the general area where 93 Cuban flies were released on July 24. In this collection, which consisted of 68 borers and parasites, the parasitization by the Cuban fly amounted to 63 percent. The total parasitization was much higher at Dulac than in the other localities. Limited surveys revealed that the Cuban fly had spread approximately 1/4 mile from the release point at Dulac. At Woodlawn both parasites were recovered 1/3 mile from the nearest release points.

The Peruvian fly was not recovered in a collection of 36 borers from a field where 59 of the parasites were released in 1953.

* Appreciation for cooperation in this test is expressed to Mr. T. M. Barker of Valentine Sugars, Inc., Messrs. E. A. Maier and C. L. Denley of the South Coast Corp., Mr. Hughes Breaux of Dulac and Mr. Lloyd Lauden of the American Sugar Cane League.

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IN WASHINGTON

(Continued From Page 119)

accepted an invitation from the Cuban government to visit the Island the latter part of this month. Plans are being made for the party to entrain in Washington January 21st. They will go by boat from Miami to Havana where they will be entertained by government officials and representatives of various agricultural interests, including sugar. The party will return to Washington about January 29th.

IN THE FIELD

(Continued From Page 118)

foot rows would increase the number of rows by one third. If yields are increased proportionately this would mean a one third increase in yield. On a 21 ton average yield, this would mean an increase of 7 tons per acre. A seven ton increase per acre could buy much modification.

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UP FRONT

(Continued From Page 116)

gress accurate information about the very complex sugar industry has been invaluable."

Mr. Bourg was buried in the family tomb in Thibodaux, La. on January 2nd 1954. He was sixty years old. Surviving him are his widow and five children. To them we extend our deepest sympathy.

McConnell Promoted

Mr. G. M. Talmage, President of the Henderson Sugar Refinery, has announced that R. C. McConnell is now sales manager of the Henderson Sugar Refinery, and that W. E. McFarland has been elected Vice-President in charge of productions.

Mr. McConnell was connected with the sugar brokerage firm of Lowry & Co., before joining the Henderson organization in 1950.

Mr. McFarland was the plant manager of the Reserve refinery of Godchaux Sugars, Inc., before taking over his new assignment.

Crop Report

The Louisiana Crop Reporting Service had the following to say about the sugarcane crop in their report dated December 23, 1953.

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"Sugarcane production of 6,472,000 net tons in 1953 for sugar and seed is valued at $44,980,000. This record production and value exceeds last year by 6 and 11 percent, respectively. The average yield per acre of 21.5 tons is nearly a ton above last year and is the highest since 1945. Although growth was short in some areas because of dry weather, yields in general were very good. Sugar production is expected to total 490,000 tons (raw value) from 6,020,000 tons of cane, compared with 451,000 tons of sugar from 5,667,000 tons of cane in 1952.

Quota Hearing Held

The Government hearing on marketing quotas for the Mainland Cane Area (Louisiana and Florida) was held as per schedule on January 6th in the Ball Room of the Monteleone Hotel, New Orleans, with John Curry presiding.

Herbert G. Folken, Chief of the Quota and Allotment Branch of the Sugar Division, presented the Government's brief, and W. S. Chadwick, who needs no introduction, presented Louisiana's case. George H. Salley, Secretary of the Okeelanta Sugar refinery, spoke for the Florida producers. Except for a few minor adjustments, the Florida producers endorsed the brief presented by Mr. Chadwick.

The meeting was a good one. Practically every Lousiana, and every Florida mill was represented, and the Government people, as they always do, conducted the hearing in flawless fashion.

It was most encouraging to note the spirit of cooperation that has developed between the Louisiana and Florida industries and we know that this is going to play a big role in the coming fight for additional quota for the Mainland Cane Area.

As soon as space permits, we will print the brief by Mr. Chadwick, and the testimony of Mr. Salley in *The Sugar Bulletin.*

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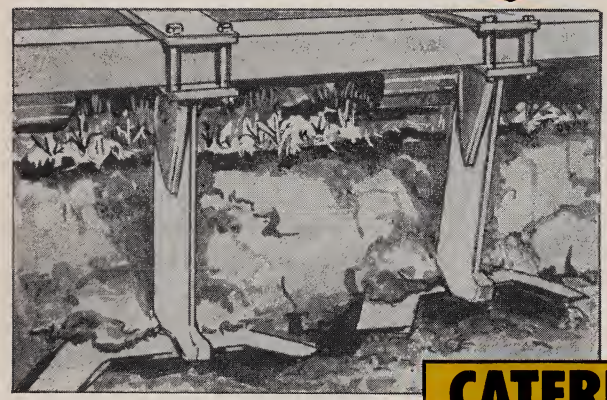

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THE SUGAR BULLETIN

ol. 32—No. 9 FEBRUARY 1, 1954

ficial Bulletin of the American Sugar Cane League of the U. S. A.

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414 Whitney Bldg., New Orleans 12
Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor
Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Technologists To Meet

The American Society of Sugar Cane Technologists will hold their Annual Meeting in Houma, La., on February 15th, beginning at 9:30 in the morning. The meeting will be held in the auditorium of the USDA Experiment Station.

Mr. C. C. Savoie, Chairman of the Manufacturing Section, has announced the following program for the morning meeting:

1. Evaluation of New Cane Varieties (a) Milling Results—C. W. Stewart (b) Small Mill vs Factory Comparison—Arthur G. Keller (c) Processing Quality of Cane Juices of New Varieties—L. F. Martin.

2. Notes on the Use of Lytron—J. H. Thibaut.

3. Notes on the Use of Laid Fibers as Filter Media—C. W. Stewart.

4. Notes on Clarification During 1953—Pat Cancienne.

5. Corrosion in Evaporators—Report of Special Committee.

6. Symposium on Evaporator Corrosion and Construction Materials.

Mr. C. C. Shaffer, Chairman of the Agricultural Section, has prepared the following program for the afternoon session of the meeting:

1. Soils in Relation to Sugar Production—M. B. Sturgis.

2. Results To-date with Hot Air Treatment of the Control of Stunting Disease of Sugar Cane—L. L. Lauden.

3. Results of Recent Irrigation Studies by Godchaux Sugars—Ridley LeBlanc.

4. The Use of Plaques to Study Effects of Herbicides on Soil Microflora—A. R. Colmer.

5. New Developments in Cane Machinery—B. C. Thomson.

The Annual Dinner of the Society will be held in the LeBayou Restaurant, which is near the Experiment Station, beginning at 6 P. M. Guest speaker at the dinner will be the Honorable Ed. E. Willis, Congressman from the 3rd Louisiana Congressional District, who needs no introduction to the readers of *The Sugar Bulletin.*

A Resolution

The Executive Committee of the American Sugar Cane League held its regular monthly meeting in New Orleans on January 27th. This was the first meeting of the Committee since the death of Clarence J. Bourg and all those present observed a moment of silence in respect to his memory. The Committee unanimously adopted the following resolution:

Whereas—The Louisiana Sugar Industry lost one of its most distinguished members when death took Clarence J. Bourg from us on December 28, 1953, and

Whereas—Clarence Bourg, until the time of his illness in 1951, had served the American Sugar Cane League as its Fourth Vice-President and Washington Representative for almost a quarter of a century during which time he played a leading role in planning the national legislation pertaining to the sugar industry under which our industry is now operating, and

Whereas—The entire Louisiana Sugar Industry, and especially we, the members of the Executive Committee of the American Sugar Cane League, feel very keenly the loss that is ours because of the untimely death of this man who devoted his life to the task of promoting and protecting our welfare; therefore

Be It Resolved—That the Executive Committee of the Ameri-

(Continued on page 135)

EXCERPTS FROM THE TESTIMONY OF W. S. CHADWICK AT THE MARKETING ALLOTMENT HELD IN NEW ORLEANS ON JANUARY 6, 1954

My name is W. S. Chadwick. I am Secretary-Treasurer of J. Supple's Sons Planting Company, Ltd., of Bayou Goula, Louisiana, a processor of sugar from sugar cane operating in the Mainland Cane Sugar Area.

The 45 processors on whose behalf I make this appearance processed approximately 95% of the total sugar processed in the Mainland Cane Sugar Area during the crop year 1953.

I have been designated as the representative and witness of these processors as a matter of expediency in order to avoid duplication of facts, proposals and opinions. However, I desire to reserve to each of the processors represented by me the right to place in the record of this hearing any statement of facts particularly applicable to such processor and to further reserve to each of them the right to file briefs subsequent to the close of the hearing.

Before making any proposal or recommendations, I desire to comment briefly on a matter of serious consequences to all of us. In this respect I am certain I speak not only on behalf of my constituents but just as strongly on behalf of every processor of sugar and producer of sugar cane in the Mainland Cane Sugar Area. I here reiterate the statement made at the 1953 hearing, that we take this and every opportunity to express our serious and grave concern and opposition to the necessity of imposing any restriction on the marketing of sugar produced in this area. In making this statement I am not critical of the Department of Agriculture, for under the quota restrictions contained in the Sugar Act of 1948 the Department has no alternative.

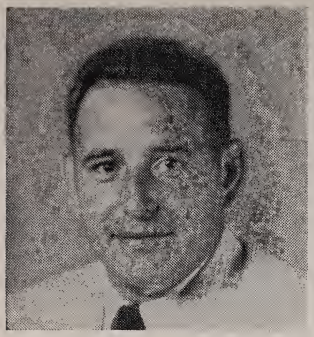
We desire to earnestly record here that there is and can be but one solution to the real problem at hand. There must be an increase in the Mainland Cane Sugar Area quota through action of the Congress of the United States.

In view of our production in recent years, the walls of a 500,000 ton quota for this area have become so restrictive that we find ourselves in an ever closing vise from which we cannot extricate ourselves. We are being smothered and overwhelmed with mountains of unmarketable sugar.

The producers and processors of this area have realized, and our thinking has been encouraged by the Department of Agriculture, that with mounting costs our salvation is in increased efficiency and productivity. The serious predicament in which we find ourselves has not resulted from increased sugar cane acreage, but from an increase in efficiency and productivity which has been our goal and for which we are now being penalized. For the 1949 crop 340,000 acres of sugar cane were harvested in this area. In the five years that have ensued this acreage has fluctuated only slightly. In the crop year 1953 approximately 347,000 acres will be harvested, or an increase of only 2% over 1949. However, at the same time our production of sugar has increased from 519,000 tons produced from the 1949 crop to an estimated 630,000 tons to be produced from the 1953 crop, or an increase of 21%.

During approximately this same period, or beginning in 1948, and assuming the correctness of the Department's estimate of consumption requirements for the year 1954, the consumption of sugar in the United States has increased approximately 20%.

(Continued on page 136)



IN THE FIELD WITH LLOYD LAUDEN

Crop Conditions

Several members of our industry have already expressed concern over apparently weak or slow stands of plant cane. Much of the concern expressed has been substantiated only by observation of the fields and not by any actual digging to determine whether the seed pieces are sound or have deteriorated, but some of the concern has come from farmers who have made careful investigations of the situation.

Summer planted cane, in general, appears to have germinated well in most areas. This early planted cane had the advantage of moisture and warmer days which insured rapid germination. This is not only true of summer planted cane in light soils but also cane planted in heavier black soils. It is not the summer planted cane, but the fall planted cane, and particularly that cane planted during the latter part of September, that is causing the concern. In many instances this cane, and cane planted later, was planted in soil containing very little moisture.

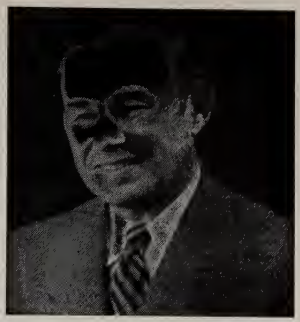
There are three distinct conditions existing now as a result of the lack of moisture at the time of planting and following the time of fall planted cane depending upon the type of soil this cane was planted in and the exact time the cane was planted. Generally, middle September to later September plantings on light soils germinated slowly but marked the row well before the freezes occurred. However, cane planted at that time on heavy clay soils, in most cases, has not germinated well. In many cases the gaps will not fill in because many seed pieces are completely dry rotted. Much of the later than September planted cane is only now beginning to show even though there has been sufficient moisture long before now to have caused germination. Cool weather has probably been responsible for the delay in germination of the October planted cane.

The writer has made these observations along the East and West side of the Mississippi, the Lafourche-Terrebonne area, and the Teche area. It is the writer's opinion, however, that it is still rather early to decide that plant cane stands, in general, will not be good. It must be remembered that plant cane stands both for the 1952 and 1953 crops were not very impressive early in the season; yet the 1952 and 1953 crops are listed among the years of highest production in Louisiana. It is not intended here to infer that plant cane stands this year compare favorably with stands of plant cane in 1952 and 1953, but merely to point out that it is a little early yet to become overly alarmed.

The condition of stubble fields throughout the sugar belt varies depending upon when harvesting operations ended and the time the winter rains began. Much work will be necessary to correct the damage done to fields in areas where the rainfall began early and continued to the end of harvesting. In some areas deep ruts were made, not only in the heavy soils, but in the light

(Continued on page 141)

IN WASHINGTON WITH JOE FERRIS



Producers to Meet

Representatives of the various domestic sugar producing areas have accepted the League's invitation to meet in Washington on February 23rd to discuss legislative plans for 1954.

Beet Allotment Hearing

The first beet marketing allotment hearing in many years was held in Chicago on January 18th.

Representatives of the various beet mills agreed to contribute a portion of their allotment to a pool which would be used by the Secretary of Agriculture at his discretion to alleviate "hardship" cases. The terms and amounts of such contribution were set forth in stipulations similar to those recently made by Mainland cane processors.

Although there are one or two hold-outs among the processors who have not yet signed the stipulations, beet officials are hopeful that there will be unanimous consent to the proposal before the February 15th deadline set by the Department of Agriculture hearing officers.

Sugar Ball

Felix M. Broussard, enterprising President of the Louisiana State Society of Washington, has announced the forthcoming 7th annual gala Mardi Gras Ball for Friday night, February 26th, in the Grand Ballroom of the Mayflower Hotel.

The 1954 Mardi Gras Ball is dedicated to the great sugarcane industry of Louisiana and the King will in reality be a "Sugar King!"

16 Festival Queens coming from all parts of Louisiana and representing almost every major industry, will participate in the pageant.

Under the skillful management of Broussard, the Mardi Gras Ball has become Washington's most important, exciting and brilliant social event of the year.

The theme of this year's ball "SUGAR" is particularly apropos, coming as it does on the eve of the re-opening of the Sugar Act.

UP FRONT

(Continued from page 132)

can Sugar Cane League, meeting today for the first time since the death of our friend, does hereby officially express the distress that we know everyone in the Louisiana Sugar Industry must feel because Clarence J. Bourg, the man who championed our cause for so many years, is no longer with us.

Be It Further Resolved—That this resolution be made a part of the minutes of this meeting, and that a copy of it be forwarded to the widow and family of Mr. Bourg along with our expressions of hope that the knowledge that their loved one was held in such high esteem by his friends and fellow workers will in some way help to alleviate their present grief.

Robert J. Gauthier Killed

It is with extreme regret that we chronicle the death of another distinguished member of the Louisiana sugar industry, Robert J. Gauthier,

(Continued on page 141)

EXCERPTS

(Continued from page 133)

If our Mainland Cane Sugar quota had kept pace with our productivity and with the consumption needs of the United States, the major problem confronting us would not exist. We, therefore, take this opportunity to urge the Sugar Branch and the Department of Agriculture to cooperate with us in obtaining the basic relief that is essential, through a proper amendment to the Sugar Act. Only in this manner can there be fairness, efficiency and equity.

With our present burden no allotment order can accomplish the theoretical objectives of this hearing as pronounced in the Sugar Act. We can only determine how the burden can be shifted from shoulder to shoulder to temporarily mitigate the damage resulting from the overall load.

Our Committee and the Louisiana processors with the estimates and data available have conscientiously attempted to appraise all possible formulas, giving various weights to every conceivable factor. However, it is obvious a conscientious appraiser finds himself in a difficult position.

In considering the allotment of the 1954 quota the condition that is giving us primary concern is the excess of normal or average stocks of sugar on hand as of January 1, 1954. The exhibits of the Government witness do not show these figures, as such, but merely contain figures indicating the sum of estimated 1953 crop production plus estimated excess January 1, 1954 stocks over 1948-53 average stocks. We have, therefore, prepared, and I offer and file in the record, an exhibit showing such excess stocks based on the Government estimates and also showing such excess stocks based on the estimates obtained by the American Sugar Cane League. I request that this exhibit be given the necessary mark of identification.

Regardless of which estimate may be correct, it will be noted there is a complete lack of uniformity among processors in the actual excess stock figures as of January 1, 1954. To the extent that a processor's stock as of January 1st does not substantially exceed his average or normal stock, no serious problem is presented. However, in the case of some processors such excess is very substantial.

At the 1953 allotment hearing this Committee, supported by 37 of the Mainland Processors, strongly recommended a proposal which would have completely cured the excess stocks inequalities then existing. The Department completely ignored this recommendation and gave no weight or effect whatever to excess of normal stocks. We believe the actual results, together with the change in thinking of the Sugar Branch as evidenced by the proposal made today by the Government witness, indicate the wisdom of our recommendation made last year.

Today, the problem, and its solution, is even more serious, because the total excess of normal stocks in the area has grown from approximately 30,000 tons on January 1, 1953, to an amount estimated by the Department at approximately 124,000 tons on January 1, 1954. The problem would be much less complex today if it had been solved at the beginning.

Last year we exerted much effort in attempting to devise a formula which, in itself, would equitably solve this problem. We concluded then that no single "slide rule" formula could accomplish this purpose. A formula can mitigate some of the inequities and inequalities by giving substantial weight to excess of normal stocks. However, based on available estimates, in applying any formula there will remain at least a few processors who are in a position of serious hardship.

The financial burden of carrying substantially an entire crop of sugar

R. H. Chadwick Presenting Testimony At Marketing Allotment Hearing

from one year to the next cannot be taken lightly. The expense connected with storing such sugar, marketing risks, the necessity of providing storage space, shrinkage and deterioration of sugar, all add up to extremely severe penalties.

Any formula which results in such extreme conditions of hardship cannot be said to provide a fair, efficient or equitable distribution of the quota. If the allotment involves severe hardship on one processor and not on another, it cannot be called fair. If it unnecessarily causes financial risk and expense to one and not another, it cannot be called equitable. If it unnecessarily and unreasonably prevents, or drastically delays one processor's marketing program it cannot be called efficient. By the same reasoning, it cannot be said that such formula affords all interested persons an equitable opportunity to market sugar within the area's quota as stipulated in the act.

We cannot recommend, as was done last year, that all or substantially all excess stocks be allotted separately and marketed, because the burden would be too great on the processors who have no or little such excess. However, a special hardship clause can with complete legal and equitable propriety be included in the determination which will alleviate in part the irreparable harm that would otherwise result to these few processors.

To provide for this condition, we recommend that the determination specifically provide that in no event shall the allotment to any processor

(Continued on next page)

be an amount less than the sum of such processor's January 1, 1954 actual stock of sugar on hand plus 25% of the amount of sugar produced by such processor from the 1953 crop.

This proposal would assure each processor of marketing his actual January 1, 1954 stock plus 25% of the sugar to be produced by him in 1954, assuming that his 1954 processings will equal his 1953 crop processings.

Based on the estimates available to us, this proposal would benefit probably only three processors, but these are the processors who are in the condition of greatest distress and who have the greatest need. These estimates indicate that only six to eight thousand tons of sugar would be required and utilized from the area's quota in bringing these processors up to the minimum called for under the proposal.

The 25% minimum or floor on the marketing of assumed current processings does not result from any mathematical calculation. This percentage is selected because it would result in a minimum allocation sufficiently large to iron out the few most serious inequities, and at the same time would not result in a substantial reduction in the allotment of the remaining processors. The proposal, at least, strongly contributes towards the fairness, efficiency and equitableness of the overall distribution.

This proposal is similar in purpose to the 80% minimum provision included in the Proportionate Share Determination issued by the Secretary with respect to the 1954 crop of Mainland Sugar Cane. Certainly it can be justified under the provisions of the Sugar Act, since it is indicative not only of processings but also of ability to market.

As I have testified, much thought has been given to the basic formula under which the quota will be distributed. After much deliberation and in view of existing circumstances which I have noted, the processors I represent have concluded to offer no basic formula.

The processors represented by me make the following additional general recommendations:

(a) It is recommended that there be allotted to the Louisiana State University, for its experimental sugar factory at Baton Rouge, Louisiana, 125 tons of quota, regardless of the allotment to which it would be entitled under the formula finally adopted.

In view of the many benefits derived by the entire Mainland Cane Sugar Area from the educational and experimental work performed at the sugar factory at the Louisiana State University, we feel convinced no processor will object to the allotment of 125 tons proposed for this purpose. This allotment to the Louisiana State University is in accord with its stated needs.

(b) It is recommended that there be incorporated in the 1954 allotment order provisions similar to paragraphs (b) and (c) of Section 814.20 of the 1953 Allotment Order, relating to the Transfer of Allotments and Exchange of Sugar Between Allottees, respectively.

These provisions should not be objectionable to any processor or to the Department and were designed to serve a highly useful purpose.

(c) It is further recommended that there be incorporated in the allotment order, or accomplished through other available means, a provision or regulation that will permit the delivery of excess quota sugar for further processing, conditioned on the person to whom such sugar is delivered furnishing satisfactory bond, obligating such person to hold the sugar, or an equivalent amount of quota sugar regardless of its source, until the beginning of the next calendar year or until such earlier date as the Secretary may specify.

This recommendation is comparable to the provisions of Section

SUGAR MARKET STATISTICS THROUGH JANUARY 25, 1954

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.00	6.05	6.05
QUOTA RAWS DELIVERED NEW ORLEANS	5.97	6.00	6.03
WORLD SPOT RAWS (In Cuba)	3.32	3.30	3.55

SUGAR FUTURES No. 6
(Closing Bid Prices)

	1954 March	May	July	Sept.
Today	5.46	5.49	5.64	5.69
1 Month Ago	5.49	5.54	5.69	5.74
1 Year Ago	5.49	5.57	5.76	5.84

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	74,680 bags	74,680 bags
Godchaux	49,383 bags	49,383 bags
Colonial	113,941 bags	113,941 bags
Henderson	23,939 bags	23,939 bags
Southdown	None	None
South Coast	None	None
Sterling	None	None
Supreme	22,840 bags	22,840 bags
Totals	284,783 bags	284,783 bags

816.2 of Sugar Regulation 816, Amendment 1, effective May 3, 1949, except under the recommended provision the person to whom the excess quota sugar is delivered may hold an equivalent amount of quota sugar regardless of its source. It is our understanding the department has ruled, under existing regulations, that the equivalent amount of sugar which may be held must be sugar from the same area or from a domestic area.

Such authorization as to the delivery of excess quota sugar under bond would be of material assistance to processors in some instances. It would permit a wider latitude in the disposal of excess quota sugar and, where usable, would avoid storage and other expenses incident to the holding by a processor of such sugar.

(d) We recommended at the 1953 hearing that each processor be urged to report to the properly designated representative of the Secretary of Agriculture immediately if it appears that such processor will be unable to market that portion of the quota allotted to him. Several processors in 1953 were unable to market their respective allotments, but this fact was not established until a few days prior to the end of the calendar and quota year. At that late date the reallocation was hardly in sufficient time to serve any useful purpose. We now, therefore, recommend that some action be taken by the Department, either through the inclusion of a pertinent provision in the allotment order or through other appropriate action, to require each allottee to report his estimated 1954 calendar year production and estimated 1954 marketings not later than December 10, 1954, and to report in writing his inability to market a portion of such allotment and to tender or surrender such deficit for reallocation immediately on such fact becoming apparent. This recommendation is strongly made in order that procedure may be set in motion to re-allocate such processor's deficit in sufficient time to be available and usable by the remain-

(Continued on next page)

ing processors during the quota year.

We desire to indicate that the proposals made by the processors whom I represent with respect to the allotment of the 1954 quota are recommended in the light of facts and circumstances appearing to exist at the present time. However, the making of these proposals under existing circumstances is not to be taken as establishing a precedent for the future.

USDA Research Shows Soil Treatment With Chlordane Boosts Sugarcane Yields

Destroying soil insects and related pests with the insecticide chlordane boosts sugarcane yields by preventing root-feeding damage and, in turn, the entry of rot organisms into pest-inflicted root wounds, report entomologists of the U. S. Department of Agriculture.

Five years of cooperative field tests by the USDA's Agricultural Research Service and the Louisiana Agricultural Experiment Station, applying the insecticide to plantings in heavy Louisiana soils, resulted in an average increase in both cane and sugar of more than 12 percent over untreated plantings. Use of chlordane increased the average yield of cane per acre from 21.3 to 24.1 tons, and sugar from 3,852 to 4,315 pounds.

Research entomologists obtained these gains by applying chlordane as a 1 percent dust at the rate of two to four pounds of actual insecticide per acre. Put on by hand or with a fertilizer distributor during fall planting, the material was dusted into open furrows containing cane seed pieces. Cost of insecticide and application was estimated at $4.50 an acre, which compares with an annual average cash gain from increased yields on treated fields of around $18 an acre during the test years, 1948-52.

Two tests, conducted to determine the carry-over effect of chlordane into the second year after application, showed even greater yield increases in the second than the first year. Use of chlordane at the rate of two and four pounds per acre on 1/3-acre field plots upped sugarcane yields 12 and 9 percent, respectively, the first year after treatment, but 23 and 32 percent the second year. Four pounds of chlordane per acre on 1/50-acre plots increased yields over untreated cane plots 16 percent the first year, nearly 20 percent the second year.

Dry Sugar Baits Show Promise For Controlling Flies in Livestock Buildings

Mixtures of sugar and organic phosphate insecticides that can be shaken like salt onto the floors of livestock buildings are showing great promise as a method of controlling flies resistant to such chlorinated hydrocarbon insecticides as DDT, report U. S. Department of Agriculture entomologists.

Three phosphate insecticides—malathion, diazinon, and a dialkyl phosphate material—were tested at the Orlando, Fla., laboratory of USDA's Agricultural Research Service during 1953, and all of them proved effective in controlling DDT-resistant flies. Used in dairy barns and poultry houses, the three chemicals reduced resistant fly populations by 90 percent or more within four hours after application.

The three phosphates appear to be well suited for farm use against resistant flies because they are not only the best fly-killers of several chemicals tested, but have relatively low toxicity to livestock and humans.

In practical tests in dairy barns in the Orlando area, the Department entomologists got excellent control of flies by applying the dry sugar bait at the rate of 100 grams (about 3.5 ounces) in each building. They found it necessary to treat five times a week for 2 or 3 weeks to

reduce fly populations to a low level in locations where the pests could breed readily. The daily treatments were accomplished in a few minutes with a pint jar fitted with a perforated lid and filled with the sugar-insecticide mixture. Enough insecticide for the entire fly season would cost less than a single residual insecticide spray treatment of a typical dairy unit.

In most cases, the dry sugar baits proved more effective than the liquid insecticide baits that were announced by USDA entomologists about a year ago and which are now being used in some areas of the United States.

WEEKLY AVERAGE PRICES

Weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1953-54 pricing period have been as follows:

Week ending October 15, 1953
Raws 6.40, Blackstrap 11.00 cents.

Week ending October 22, 1953
Raws 6.35, Blackstrap 11.00 cents.

Week ending October 29, 1953
Raws 6.34, Blackstrap 10.46

Week ending November 5, 1953
Raws 6.315, Blackstrap 9.625 cents.

Week ending November 12, 1953
Raws 6.13, Blackstrap 8.96 cents.

Week ending November 19, 1953
Raws 6.01, Blackstrap 9.00 cents.

Week ending November 26, 1953
Raws 6.09, Blackstrap 9.06 cents.

Week Ending December 3, 1953
Raws 6.16, Blackstrap 9.55 cents.

Week Ending December 10, 1953
Raws 6.03, Blackstrap 9.925 cents.

Week ending December 17, 1953
Raws 5.92, Blackstrap 10.03 cents

Week ending December 24, 1953
Raws 5.93, Blackstrap 10.275 cents

Week ending December 31, 1953
Raws 6.02, Blackstrap 10.50 cents.

Week ending January 7, 1954
Raws 6.00, Blackstrap 10.44 cents

SEASON'S AVERAGE THROUGH JANUARY 21, 1954
Raws, 6.12, Blackstrap 10.04 cents.

Week ending January 14, 1954
Raws 5.98, Blackstrap 10.45 cents.

Week ending January 21, 1954
Raws 6.07, Blackstrap 10.25 cents.

—o—

IN THE FIELD

(Continued from page 134)

soils as well. It appears that more damage of this nature occurred in the Lafourche and Terrebonne areas than in the remainder of the sugar belt.

UP FRONT

(Continued from page 135)

who was killed in an automobile accident on January 15th.

Mr. Gauthier was the manager of the Levert-St. John properties in the St. Martinville area, and was very active in the affairs of the Louisiana sugar industry. He was a member of the Finance Committee of the American Sugar Cane League, and was also active in the Louisiana Sugar Producers Club (Western Division). He was one of the delegates from Louisiana, headed by John Minor Wisdom, to the Republican National Convention and took part in the successful fight of that faction to gain recognition at the convention.

Robert Gauthier was a man who could always be counted on when the chips were down and his untimely death at the age of only forty-eight years is a blow to all of us who knew him.

He is survived by his widow, his parents, a brother and a sister. To them we extend our deepest sympathy.

Horace Nelson Retires

Mr. Walter Godchaux, Jr., Vice-President in Charge of Operations, and Mr. Richard McCarthy, Jr., Vice President in Charge of Agriculture, of Godchaux Sugars, Inc. have jointly announced the retirement, effective February 1, 1954, of our friend Mr. Horace Nelson.

The writer has been privileged to know Mr. Nelson for a long time but we have asked the people who know him best, his employers, to give us an account of his services to the Louisiana sugar industry and to our community. The following paragraphs are straight from the Godchaux office.

"Horace Nelson's connection with the sugar business lacks but two years to round out half a century. It began in 1906 when he became a cane weigher in the service of a predecessor of Godchaux Sugars, Inc., with which company he has been continuously associated since that year. He served in various capacities, reaching his position as General Manager of the Raceland Plant of Godchaux Sugars, Inc. in 1916, some ten years after his initial position with that company.

In the forty-eight years in which he has been associated with the sugar business, Mr. Nelson has been active in many civic and public affairs. He rendered valuable service as a member of a number of important committees of the American Sugar Cane League, and has kept in close touch with all phases of the sugar industry. He has witnessed its progress from mule and hand cultivation and harvesting to the present day tractor and mechanized operations and carefully followed the change from the old native varieties of cane to the present more disease resisting and higher yielding varieties.

Mr. Nelson was born in San Antonio, Texas, in 1886, the son of the late Christen Nelson and Eleanor Iredale, who still survives. The family moved to New Orleans six years later, and he was educated in the New Orleans Public Schools and also attended Soule and Spencer business colleges. One of his earliest positions was with the American Sugar Refinery. He was married in 1914 to Miss Maud Tufts of New Orleans, and together they have lived over the past decades on various plantations.

Among the organizations in which he has been active is the Lafourche Chapter of the American Red Cross, of which he is Vice-Chairman, the Lafourche Chamber of Commerce, of which he is a director. He is

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also a Director of the Raceland Bank and Trust Co., the Ariel Company, Inc., the Raceland High School, Raceland Fire Department and Lafourche Live Stock and Fair Association. He also served as a member of the Lafourche Basin Levee Board, and was a member of the Selective Service Boards and various Civilian Defense organizations and bond drives during World Wars 1 and II.

Among his cultural pursuits, he has devoted considerable time to vocal and instrumental music, and at one time gave violin lessons as a method of augmenting his income.

Mr. Nelson retires as General Manager of Godchaux Sugars, Inc. Raceland plant on February 1st. His loyalty, devotion and outstanding service that he has rendered over his long tenure in office not only in his official capacity but to the sugar industry as a whole are recognized by all who have come in contact with him and should be a source of gratification to himself and his host of friends. He has merited the esteem of all who know him and it is hoped that he will be with us for many years to come to give us the benefit of his wise counsel and broad experience in his chosen field."

Promotions

The Godchaux people have also announced that, effective February 1st, Mr. Ridgley J. LeBlanc will succeed Mr. Nelson as General Manager of the Raceland properties. Mr. Sam B. Pertuit will be the Assistant Manager of the Raceland factory and Mr. Sidney Giroir will be Assistant Manager of agricultural operations.

Also effective February 1st, Mr. Dennis A. Domangue will be transferred from Reserve to assume the duties of Manager of the Elm Hall Group of properties, and Mr. Malcolm J. Lasseigne will move from Elm Hall to the Reserve Group to be Assistant Field Manager and Manager of weed control operations on the Reserve plantations.

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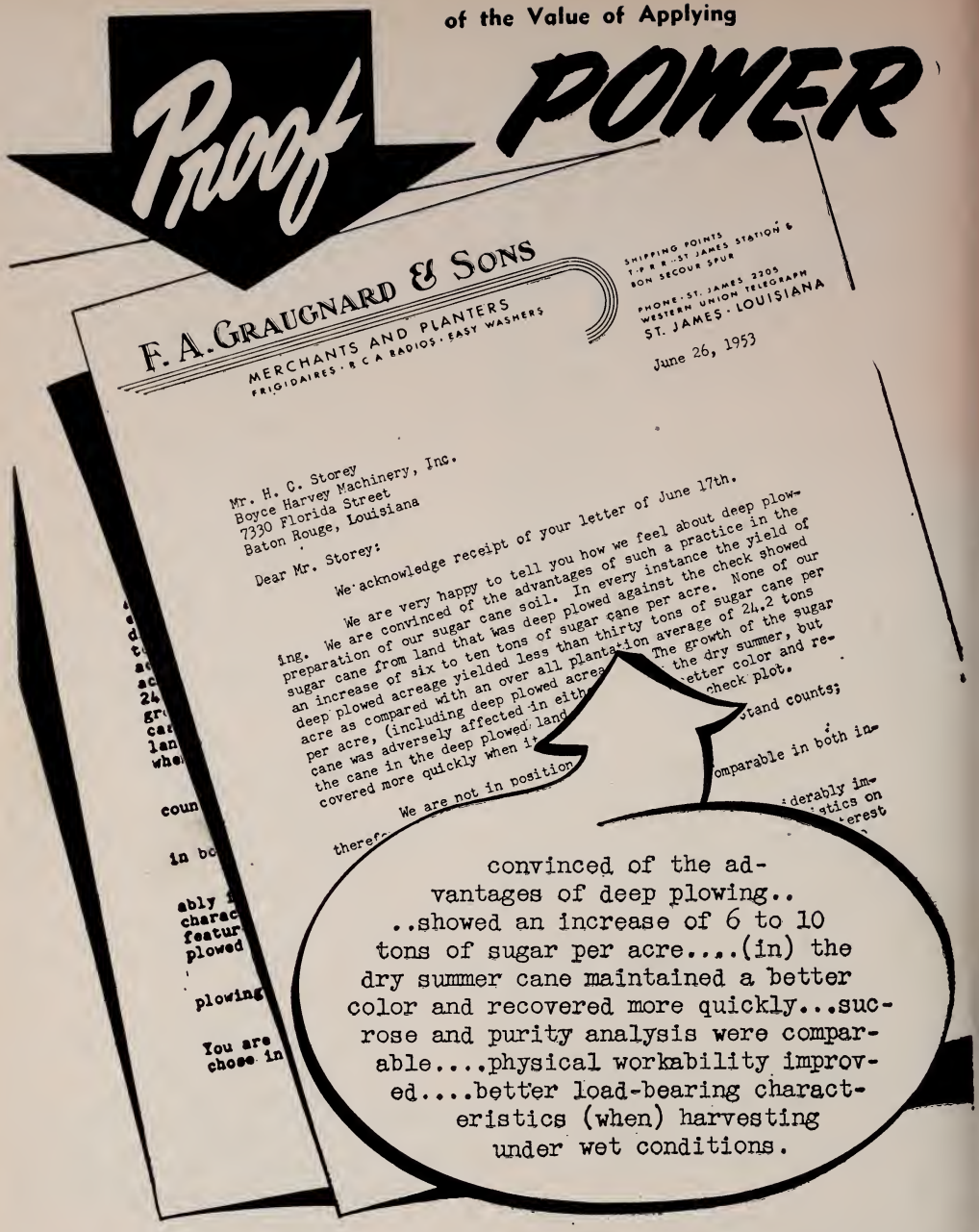
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We are not in position
convinced of the advantages of deep plowing.. ..showed an increase of 6 to 10 tons of sugar per acre....(in) the dry summer cane maintained a better color and recovered more quickly...sucrose and purity analysis were comparable....physical workability improved....better load-bearing characteristics (when) harvesting under wet conditions.

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THE SUGAR BULLETIN

ol. 32—No. 10 FEBRUARY 15, 1954

ficial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Chas. A. Farwell

Charles A. Farwell, President of Milliken & Farwell, Inc. died in New Orleans at 5:30 in the morning on January 30th, 1954. He was 51 years old.

Everybody in the Louisiana sugar business, and a lot of other people, knew Charlie Farwell. He was a man who was always doing things. He was a member of the Board of Directors of the Whitney National Bank, the Flint Goodridge Hospital, Dillard University, and a former member of the Board of Administrators of the Charity Hospital. Those who knew him intimately say that he had a heart as big as himself, and that he was always lending a helping hand to the needy with whom he came in contact through his work on many charitable organizations in and about New Orleans. Charles A. Farwell was outstanding as a civic leader in our community.

Charlie was elected a member of the Executive Committee of the American Sugar Cane League in September 1938. He served on this Committee until September 1951 when he asked to be relieved of this assignment. His brother, Evans, was elected in his place. Back in 1939 he was appointed Chairman of a special Publicity Committee of the League and for a period of ten years he devoted much of his time to telling the story of Louisiana sugar to the rest of the United States.

We believe that the activity for which he is most famous was his work at rain making. He firmly believed that it is possible to cause it to rain by seeding the clouds with dry ice and he is credited with having produced at least six rainstorms during prolonged summer dry spells. He received letters from all over the world about this work.

To say that we will miss Charlie is certainly an under statement. His dynamic personality played a leading role in the affairs of the American Sugar Cane League for a long time and it is very hard for us to realize that he will no longer be with us. To the writer he seemed almost indestructable, and the news of his death came as a great shock.

Besides his brother Evans, he is survived by his widow, the former Hermina Merrell, a daughter, Edwa Farwell, and two sons, Dr. C. A. Farwell IV and Blair Farwell. To them we extend our deepest sympathy.

Louisiana's First 2, 4-D Plant

Bel Chemical & Supply Co. Inc., of Houma, La. has announced the opening of its Schriever Plant for the formulation of 2, 4-D Amine Weed Killer.

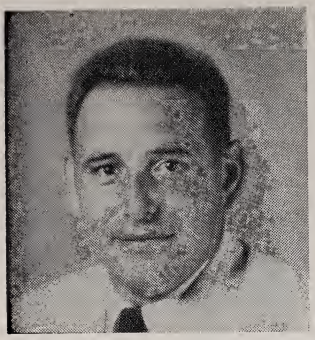
The completion of the plant, the first for this purpose in Louisiana, marks the entry of Bel Chemical into the manufacturing field. Distribution of agricultural chemicals, spraying equipment, and veterinary supplies will be continued.

The company's policy of extending a technical field service to its customers has been expanded.

W. H. Loughbridge, Secretary-Treasurer and Manager of Bel Chemical, states that the facilities have been established to improve the position of the company in supplying the Louisiana requirements for this essential agricultural chemical.

Bel Chemical & Supply Company is Louisiana-owned and operated with Dr. Willard A. Ellender of Houma as president. The Board of Directors is composed of prominent business and professional men from Houma and New Orleans.

(Continued on page 159)



IN THE FIELD WITH LLOYD LAUDEN

Corn For The Sugar Belt

Now that the Louisiana sugar industry is operating under cane acreage restrictions, many acres will become available for corn planting in the sugar belt. In general, the land removed from cane will not be the most productive, but nevertheless this land has the capacity to grow good crops of corn if proper consideration is given the crop. In some instances the most productive soils will be available for corn as a direct result of the destruction of good stubble on good soils in order that the farm may come within the acreage quota.

At one time many farmers made a common practice of selecting their own seed for the next coming crop, but this seed selection was merely feeding the best and saving for seed that which did not appear attractive for mule feed. On the other hand many farmers knew the true value of seed selection and were benefitted by the practice. Fortunately farmers have come a long way since the time of feeding the best and saving the nubbins for seed. Results of experiments conducted by the crops and Soils Department of the Louisiana Agricultural Experiment Station indicate the best varieties of corn to plant and the proper amount of fertilizer to apply.

The recommendations of the Station for seed for South Louisiana are:

Hybrid ..... La. 521 (White)
Hybrid ..... Dixie 18 (Yellow)
Hybrid .... Funk G 737 (Yellow)

The Fertilizer recommendations of the Station for corn are as follows:

On heavier and more fertile alluvial soils, use 60 to 120 pounds of nitrogen per acre, where weeds are a problem about half of the nitrogen should be applied prior to or at planting and the remainder used as side dressing. The stands should be thick enough to give 8,000 to 12,000 stalks per acre.

On soils of Coastal Plain, Coastal Prairies, Pleistocene Mississippi Terraces, Loessial Hills, and the lighter alluvial soils, use 300 to 400 pounds per acre of 8-8-8, 10-10-10, 12-12-12, 6-8-8, 5-10-10 or 5-10-5 before planting and side dress with 40 to 80 pounds of nitrogen. Stands should contain at least 8,000 stalks per acre.

It is the opinion of many farmers that hybrid seed is too expensive. As compared to feed corn, Hybrid Seed Corn is certainly much more expensive. However, if the time spent in the making the *single* and *double* cross seed is considered, the producers of the Hybrid Seed are not asking too much for their product. To consider this further, one bushel of Hybrid seed costs approximately $10 dollars and will plant 7 acres. The cost per acre for seed is therefore something under one dollar and fifty cents. To assume that these figures are correct, all that is necessary to regain the price of the seed planted is to realize a one bushel increase per acre. In how many other crops does the cost of the seed

(Continued on page 158)

IN WASHINGTON WITH JOE FERRIS

1954 Marketing Allotments Soon

According to USDA spokesmen, members of the Sugar Division are working like beavers to complete the mainland cane marketing allotment determination so that it can become effective by February 15th.

If, by any chance, the Department is unable to make the February 15th deadline, positive assurance has been given that the determination will be made effective very shortly thereafter.

More Cotton—Fewer Beets?

Several weeks ago, when Secretary of Agriculture Benson issued his edict drastically restricting acreage allotments for cotton and wheat, western and mid-western farmers promptly planned to increase their beet acreage by utilizing acres formerly in cotton and wheat. Shortly thereafter, the revised crop forecast indicated a 2,000,000-ton beet sugar crop for 1954, although the beet area normally fails by from 100,000 to 200,000 tons to meet its statutory quota of 1,800,000 tons.

Cotton and wheat farmers raised such a howl about Benson's acreage restrictions that Congress promptly boosted acreage allotments by 3.4 million acres.

This extra acreage dividend to farmers is causing considerable speculation as to what effect, if any, it will have on next year's sugar beet production. If the beet area over-produces its quota by 200,000 tons, there is a strong possibility that certain factions in that industry may want to have the beet quota increased.

"Foreign Trade" Missions

Trade missions, one to Europe, one to Asia, and one to Latin America, have been recommended by the Agriculture Advisory Committee as a first step to implement President Eisenhower's proposal to expand international trade in food and fibre.

Suggestions for the general make up of the groups were approved by members of the Foreign Agricultural Trade Advisory Committee, who met in Washington February 5th with USDA officials.

The plan calls for U. S. representatives to go to each of those areas. The "missions" would leave in early March and return in April. Those who go to Europe also will visit countries of the Mediterranean area, plus countries of the near East. The Asia trip would begin with a visit to Japan and then continue to other Asiatic countries. The Latin American itinerary includes Mexico, Panama, Cuba and South American countries.

Members of the "missions" will be authorities on agricultural trade specializing in commodities such as wheat, cotton, livestock, dairy products, soy beans, rice, fruit and tobacco. Leaders of major trade and farm groups will also be included on the "missions."

CHEMICAL WEED CONTROL IN SUGARCANE

By E. R. Stamper, W. S. Hardcastle and S. J. P. Chilton,
Department of Plant Pathology, Louisiana
Agricultural Experiment Station

The recommendations for Johnson grass control in sugarcane are based on the results of six years research by the Louisiana Agricultural Experiment Station. All chemicals tested as herbicides have been applied on plantations heavily infested with Johnson grass with a three row sprayer and plot sizes ranging from 1/2 acre to 5 acres for each rate of chemical tested During the period of investigation all chemicals available that might have possibilities in controlling weeds and grasses in sugarcane have been tested for their herbicidal value and the effect on yields of cane and sugar per acre.

While the recommendations for the past three years have not changed they are not considered to be ideal. They are the best available both from research results obtained and use by various individuals on their own plantations.

Several large plantations that were heavily infested have gone far towards cleaning up Johnson grass.

There is no doubt that new chemicals and application technique will eventually reduce labor for applying the chemicals and the overall cost of the weed and grass control program. The research results obtained, and trial by various individuals on their own plantations, have shown the recommended control program to be feasible in controlling Johnson grass and increasing the yield of cane and sugar produced over hoeing.

Johnson Grass Control in Sugarcane

Fallow Plowing:

There is no chemical available at this time that is as effective in controlling Johnson grass plants and their rhizomes as fallow plowing. It is necessary to plow thoroughly six to eight times at timed intervals during the summer to kill Johnson grass.

Plant Cane Crop:

In most areas where large amounts of Johnson grass occur in stubble crops, seed are produced and remain viable until the year cane is normally planted. These seed germinate and the seedlings infest the plant cane and produce rhizomes that grow in both the plant and stubble crops. A chemical program is essential to control seedlings in the plant cane. The recommendations following are based on several spray applications in the plant cane and stubble. Best results may be expected if the entire program is followed step by step.

Fall Treatment: (For cane planted August 1 to October 15) [1]

1. The surface of soil should be made firm by rolling or cutipacking immediately after planting and covering the cane.

2. Apply a spray of 1 lb. acid equivalent of the amine salt of 2, 4-D on a band 36″ wide on top of the row.

3. Approximately three weeks later, or after a rain, apply 4 to 7 lbs. of 90% sodium TCA on the top of the row on 24" drill area, depending on the number of seedlings escaping the 2, 4-D treatment.

4. Cultivate the middles and sides of the rows as needed, and rogue carefully all Johnson grass plants that escaped the chemicals.

Spring Treatment:

1. Immediately after shaving and off-barring, if shaving is practiced, apply 4 lbs. of 90% sodium TCA on 24" to 30" band on the drill or bar.

2. One month later or immediately after fertilizing the cane apply

(Continued on page 155)

TESTIMONY OE GEORGE H. SALLEY OF MIAMI, FLORIDA AT THE MARKETING ALLOTMENT HELD IN NEW ORLEANS ON JANUARY 6, 1954

My name is George H. Salley, Miami, Florida. I am making this statement on behalf of the United States Sugar Corporation, Fellsmere Sugar Products Association, and Okeelanta Sugar Refinery, Inc.

I should just briefly like to explain why, although we concur in practically everything that Bill Chadwick has just said, we cannot concur with the rest of the processors in criticizing the Department of Agriculture for not holding this hearing at a later date or granting their request for postponement. We of course were opposed to any postponement, and in fact pressed for an even earlier hearing, and we would be ingrates indeed not to stand up and say so at this hearing. We can and do wish for unified action among all mainland cane sugar processors but none of this can alter geographical facts and those facts are that the end of the calendar year generally falls at the end of the Louisiana crop year but in the middle of the Florida crop year. Thus, the fixing of the tentative sugar marketing allotment in effect at this moment, based on last year's marketing allotment, actually means that we are only permitted now to start selling our 1953 crop sugar of which we have heretofore been unable to market a single pound and will be permitted to sell it for just a brief period. And then we will again be without quota.

To give an example, as relates to the Okeelanta mill, we have produced from the 1953 crop, through the 31st of December, approximately 7,000 tons of sugar. We have a tentative quota based on last year's allotment of about 8200 tons. Therefore, in another eight or ten days, we will again be unable to market a pound of sugar, and to paraphrase Dickens, when you get in a position where it is all outgo and no income, you are soon headed for bankruptcy. The other two mills, which are not quite as badly off as we are, in Florida are in a very similar position, which again means that we all are forced to throw our entire crop up to this date, a substantial quantity of sugar, on the market in a very brief period of time and will then have to sit back and wait for the outcome of this allotment hearing to pick up a few more tons of sugar and again pick up a little more income. That is why we, of course, were intensely interested in having this hearing held, even earlier if possible, so that we might have avoided being in the position we are now.

All in all, this is obviously a poor marketing time and also it requires us just to carry the sugar along, so it was vital for us to get these quotas just as soon as possible. For that reason we offer this explanation of the real impossibility of our concurring with the rest of the mainland processors in their criticism of the Department.

I believe it is understood by all in the room, although not yet a matter of record, that the three processors above named join in recommending to the Department the adoption of the proposed "floor" formula under the 1954 sugar marketing allotment; provided that the formula proposed by the Government witness is the basis of the 1954 marketing allotment order, and that no allottee shall receive a marketing allotment that is more than one and one-half percent less than what such allottee's quota would be if computed in accordance with the said formula proposed by the Government witness, without such guaranteed minimum quota.

(Continued on page 154)

HAWAIIAN SUGAR INDUSTRY'S RESEARCH PROGRAM CONTINUES ON BY-PRODUCT POSSIBILITIES FOR PAPER, FERTILIZER AND CHEMICALS

The Hawaiian sugar industry, long supporting one of the most extensive privately operated agricultural research programs in the world, has announced that the sugarcane by-product investigation started in September, 1951, will continue into 1954.

The Hawaiian Sugar Planters' Association is the agricultural association which operates research facilities supported by all 28 plantations. The HSPA Experiment Station was organized in 1895 and few agricultural industries, and no other sugar area, utilize scientific methods so extensively.

Sugar, one of the basic world food crops, was historically a profitable crop. In the last quarter of a century, however, domestic producers in areas under the United States flag have suffered due to the competition created by lower labor costs and overproduction in foreign areas. Hawaiian molasses must meet world competition and extreme price fluctuations. Hawaii, therefore, turned seriously in 1951 to intensive research of sugarcane by-products as a possible means of bringing increased income from the cane harvested.

Sugarcane has two by-products after crushing juice from the stalks —bagasse, or the fiber portion, and molasses. At present the only by-product use of bagasse in Hawaii is for the manufacture of wallboard. Only a portion of the bagasse from plantations on one island is utilized for this purpose.

Continuing to head the study of these by-products is G. W. Aljian, on loan to HSPA by C and H Sugar Refining Corporation in San Francisco. C and H is the refining and marketing organization which handles the entire Hawaiian sugar output.

Aljian acts under the guidance of Dr. L. D. Baver, Director of the HSPA Experiment Station, and the By-Products Advisory Committee of the HSPA Experiment Station, which F. E. Simpich, Jr., has headed since its organization.

Fulltime Project personnel includes T. J. Nelson, also on loan to HSPA and acting as assistant to G. W. Aljian. Two paper technologists, W. A. Robinson and S. B. Knapp, and R. W. F. Morel, chemical engineer, spearhead the major activities.

Bagasse has two components. One is fibrous, resembling excelsior and suitable for paper products. The other is a dust-like pith which has high absorption capacities. The pith mixes well with molasses and offers opportunities for a low-cost livestock feed for use in the Hawaiian Islands.

Approximately one million tons of dry bagasse are produced annually by Hawaii. If separated, this bagasse would provide some 600,000 tons of fiber and 400,000 tons of pith. It now provides practically all the fuel for the plantation factories, however, and its use for paper and feed products would require importing other fuels. Molasses production totals 250,000 tons.

Bagasse may offer an economical source of fiber for pulp and paper. Paper technologists were brought into the investigations both on the Mainland and in Honolulu. Dr. Ruth Shallcross, nationally-known paper economist, has analyzed market potentialities and costs. Success in pulp and paper, while already known to be technically feasible, awaits the solution of many economic problems by collaboration with mainland industry. This work has already covered most of its initial assignments.

Bagasse and molasses constituents have many other potential uses. Waxes and various industrial chemicals are being derived commercially in limited amounts from sugarcane in some world areas. Fertilizers, plastics, and hardboards are possibilities. However, large-scale utilization of Hawaii's sugarcane by-products still awaits further technical and economic work before competing with other American products made from other raw materials.

Top-ranking scientists are probing into possible uses of sugarcane by-products and the large capital expenditures that would be involved. Experienced businessmen are examining these findings in terms of practical possibilities. Some possibilities have been rejected as uneconomical, but prospects on others have warranted extension of the by-products study into 1954.

PRODUCTION OF SUGAR, SYRUP AND MOLASSES LOUISIANA, 1953-54 CROP (Preliminary)

Tons of sugar cane ground for sugar, gross	6,054,764
Tons of sugar cane ground for sugar, net	5,759,303
Sugar Production, Pounds:	
Raw sugar, 96°	716,849,065
Clarified	—
Turbinadoes	75,269,706
Granulated, refined	119,094,713
Granulated, plantation	10,724,980
Washed raws & Crystals	12,745,991
Total sugar produced	934,684,455
Total sugar produced, raw value [1]	961,266,621
Magma, tailings, etc., 96° sugar (Est.)	921,736
Edible molasses, 96° sugar estimated in	9,172,109
Molasses & Syrup Production:	
Tons of cane ground for syrup, gross	33,536
Cane syrup, gallons	892,146
1st molasses, gallons	1,506,982
2nd molasses, gallons	1,451,038
Blackstrap produced, gallons	36,330,800
Blackstrap, reduced to 80° Brix, gallons	39,744,553
Blackstrap estimated in magma	255,129
Total blackstrap, M. & E., 80° Brix, gallons	39,999,682

[1] Does not include sugar estimated in magma, tailings, etc.

Prepared by

W. M. GRAYSON
Sugar Marketing Specialist
(Programs)

WEEKLY AVERAGE PRICES

Weekly average prices issued by the Louisiana Sugar Exchange since the start of the 1953-54 pricing period have been as follows:

Week ending October 15, 1953
Raws 6.40, Blackstrap 11.00 cents.

Week ending October 22, 1953
Raws 6.35, Blackstrap 11.00 cents.

Week ending October 29, 1953
Raws 6.34, Blackstrap 10.46 cents.

Week ending November 5, 1953
Raws 6.315, Blackstrap 9.625 cents.

Week ending November 12, 1953
Raws 6.13, Blackstrap 8.96 cents.

Week ending November 19, 1953
Raws 6.01, Blackstrap 9.00 cents.

Week ending November 26, 1953
Raws 6.09, Blackstrap 9.06 cents.

Week Ending December 3, 1953
Raws 6.16, Blackstrap 9.55 cents.

Week Ending December 10, 1953
Raws 6.03, Blackstrap 9.925 cents.

Week ending December 17, 1953
Raws 5.92, Blackstrap 10.03 cents

Week ending December 24, 1953
Raws 5.93, Blackstrap 10.275 cents

Week ending December 31, 1953
Raws 6.02, Blackstrap 10.50 cents.

Week ending January 7, 1954
Raws 6.00, Blackstrap 10.44 cents

Week ending January 14, 1954
Raws 5.98, Blackstrap 10.45 cents.

Week ending January 21, 1954
Raws 6.07, Blackstrap 10.25 cents.

Week ending January 28, 1945
Raws 5.98, Blackstrap 10.25 cents.

Week ending February 4, 1954
Raws 5.98, Blackstrap 10.15 cents.

Week ending February 11, 1954
Raws 5.99, Blackstrap 9.75 cents.

SEASON'S AVERAGE THROUGH FEBRUARY 11, 1954
Raws 6.09, Blackstrap 10.04 cents.

———o———

TESTIMONY

(Continued from page 151)

That may be a little obtuse, but I think it is evident: what we are driving at is that we are happy to go along to the extent of giving up a portion of the quota otherwise allocable to us, provided that a definite limit of one and one-half percent is put upon the amount which each of shall be requested to yield, and further provided that the computation shall be based upon the formula in accordance with that proposed by the Government witness.

It goes without saying, of course, that we all believe that any real relief from the unfortunate predicament which we find ourselves in must come from the success of our united efforts to persuade Congress to raise the mainland cane sugar quota, and in speaking of unison, I think we have today achieved a good deal in creating some steps in this connection. I think that it would be remiss of us not to mention the fact that we are appreciative, as I feel everyone in the room is appreciative, of the fact that we are constantly making strides toward uniting our endeavors, even though as I said before, there are geographical facts which we are confronted with.

WEED CONTROL

(Continued from page 150)

same amount of TCA as given in 1, plus 1 lb. acid equivalent of amine salt of 2, 4-D on 24" to 30" band on drill.

3. Rogue as necessary to remove Johnson grass plants which have escaped the chemical.

4. Apply 2 lbs. acid equivalent of amine 2, 4-D as blanket spray (the whole area) immediately after lay-by.

Stubble Cane

Recommended for stubble from plant cane under a control program and for stubble heavily infested with Johnson grass *only if the stubble is shaved and off-barred.*

1. Shave, off-barr, and run a rotary hoe or stubble digger if practiced on the plantation.

2. Apply 11 lbs. of 90% sodium TCA plus 1 lb. acid equivalent of 2, 4-D on a band 24" to 30" wide on drill. This should be applied *immediately* after shaving and off-barring, and before the Johnson grass has sprouted. The *sides* of the bar should be sprayed as well as the top portion.

3. Apply 2 lbs. acid equivalent of amine salt of 2, 4-D per acre as a blanket spray immediately after lay-by for broadleaf weed control.

4. Knife escaped Johnson grass heads to reduce seed production.

5. If Johnson grass is not a problem in stubble cane an application of 1 lb. acid equivalent of amine 2, 4-D should be made at the first off-bar cultivation.

6. A lay-by spray of 2 lbs. 2, 4-D acid equivalent (blanket coverage) will control most broadleaf plants.

Spot Treatment:

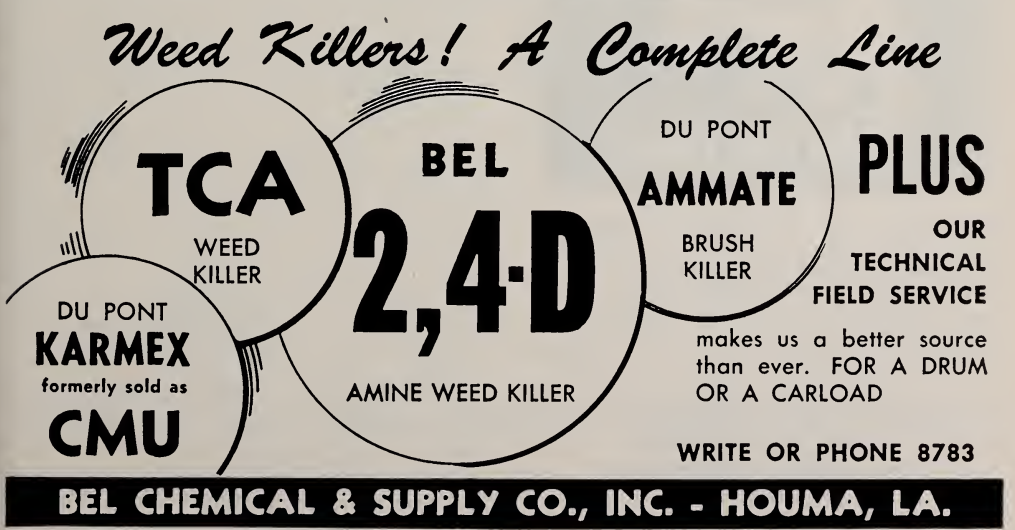
Single stools of Johnson grass in plant cane should be dug out and removed to the headlands if possible. If seedlings are plentiful spot treatment in most cases is not effective because the seedlings off-set any benefits gained by spot treatment. If only an occasional stool of Johnson grass is present spot treatment may be effective if done when soil moisture is high.

1. Spray the individual stools of Johnson grass when they are ready to flower with one of the following solutions:

a. 1 to 1½ lbs. of sodium chlorrate plus ½ to ¾ lbs. of calcium chloride per gallon of water.

b. ¾ lb. of 90% sodium TCA per gallon of water.

(Continued on next page)



Either of the solutions will kill Johnson grass if the plants are covered with the spray solution.

Costs

Approximate costs per acre using the chemical recommendation exclusive of fallow plowing, is about the same as plantation routine for labor cost for hoeing. The difference is in weed and grass control obtained with the recommended chemical control program.

1. Plant cane cost for chemicals, spraying and rogueing $13.00
2. Stubble cane cost for chemicals, spraying and knifing $ 8.00

Total plant cane and stubble $21.00

The cost of spot treatment in stubble is in relation to the number of stools of Johnson grass to be sprayed.

Ditchbanks and Headlands

Observations have shown that ditchbanks become reinfested with Johnson grass seedlings from the cane area if they are treated before the Johnson grass is cleaned up within the cut of cane. Ditchbanks should be plowed during the year cane is not grown to reduce the width of the area to be treated. Best treatment and kill has been during wet periods in August and September.

1. Spray at the rate of 600 pounds per acre of sodium chlorate plus 300 pounds of calcium chloride in 400 gallons of water.
2. Rogue or spot spray, with the same strength solution the next few years, those plants which were missed or escaped the first chemical treatment.

Several new chemicals are being tested for Johnson grass control on ditchbanks. Some of these chemicals show promise and if rates and application technique can be found they will be recommended.

Chemical Weed Control in Sugarcane Where Johnson Grass is Not a Problem

In areas where Johnson grass seedlings are not a problem but other grasses and broadleafed weeds are a problem it is advisable for the sugarcane grower to follow the recommendations for Johnson grass seedling control in plant cane.

New Chemicals

Among the new chemicals available at the present time, CMU has been tested experimentally for two years on a field scale in sugarcane. It is strictly a pre-emergence chemical for seedlings. It is not selective in that seedlings of both broadleafed weeds and grasses are affected. It has not given as good an average control of Johnson grass seedlings at the rate tried as has TCA when used as recommended in the program above. Experiments have indicated it to be safe in sugarcane at the rate per acre given below.

Where many Johnson grass seed are present in the soil as on so many badly infested sugarcane plantations, it is felt that the program in use at the present time should

Gold Bear "40" or "44" can increase your net profit, because it controls Alligator Weed and other broadleafed weeds which menace your crop.

For detailed information, consult the Authorized Swift Plant Food Dealer in your community.

SWIFT & COMPANY
Plant Food Division
Shreveport, La., Harvey, La., Houston, Tex.

be followed for general plantation Johnson grass control until more experimental information is available. However, for those interested, CMU should be tried on a small scale to determine its value to the individual grower.

One application of CMU after shaving and off-barring has maintained its chemical activity until lay-by where the soil in the drill has not been disturbed.

CMU is not a water soluble compound and unless there is a mechanical agitator in the sprayer and larger nozzle tips and screens are substituted for those normally used, trouble will very likely be encountered in application. The changes needed are given in the manufacturer's recommendations.

Where it is to be tried. 1¼ lb.[2] per acre of CMU should be used on the drill (24" to 30" wide) after shaving and off-barring and before the weed seedlings have appeared. For a lay-by spray, 2, 4-D as given above should be used.

CIPC at 2½ pounds active ingredients on the 24" to 30" drill has shown promise for crabgrass control. This material is in liquid and is fairly easy to handle. It should be applied as a pre-emergence spray immediately after shaving and off-barring in plant cane.

Some new chemicals were tested in 1953 and have shown sufficient promise to justify investigation in 1954 for weed control in sugarcane in areas where Johnson grass is not the main weed problem.

Cautions and Hazards in Using the Recommended Chemical Herbicides

2, 4-D is a plant killer. It has no restriction for property lines, fences, or roads. *Extreme* care should be taken to prevent the drift of spray solutions to sensitive plants. The

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- **RYANIA 40**
  ("stabilized" for better dustability)
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  (4 lbs. 2-4 D acid as amine salt)
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  liquid (50%) — dry (90%)

New modern plant and laboratory facilities, trained technical personnel *insure* quality controlled products.

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use of 2, 4-D in areas where cotton or other sensitive crops are grown should be restricted to use in early spring, before cotton is planted or to the fall after cotton has been harvested.

Sodium chlorate is a fire hazard. Care should be taken to change clothing after applying it, and it should never be used unless calcium chloride is added as a safener. Smoking or open flames should be avoided.

TCA in concentrated liquid or powder will burn the skin. Care in handling is important.

The recommendations on the manufacturer's label for handling all chemicals should be followed.

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[1] Amounts of chemicals given are actual amounts to be used per acre.

[2] This is actual amount of 80 per cent material (commercial strength) to be used per acre.

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EVERYTHING IN STEEL
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IN THE FIELD

(Continued from page 148)

per acre go below the one and one-half dollar mark?

It must be remembered that seed should not be saved from a Hybrid corn field as marked reduction in yield will result from planting this seed. It is absolutely necessary that new seed be purchased each year for planting. Many farmers have learned this only after bitter experience.

It should be emphasized that there are other things that must go along with the proper selection of an adaptable hybrid to make good yield of corn. Hybrid corn, as any other crop, should be planted on a well prepared seedbed and must be properly cultivated and fertilized. Hybrid corn, as any other corn, responds to the weather; however, weather becomes of lesser importance if other factors of production have been given proper attention.

A word of caution—do not just buy a Hybrid corn—buy the hybrid that is adapted to your location.

Several cane farmers through the belt have purchased narrow row equipment for corn and are making very high yields on 42 inch rows. The narrow row spacing allows more plants per acre and therefore greater yields per acre.

LOUISIANA HYBRID SEED CORN ASSOCIATION, INC.

Look for the Bag with the PELICAN

For **PROFITS** on **CORN**

USE HYBRIDS

Bred by your Experiment Station

- **DIXIE 18:** The most outstanding YELLOW hybrid in the entire South. Be sure to try it!
- **LA. 521:** Bred especially for South Louisiana and the Cane Belt. The best white hybrid yet!

UP FRONT

(Continued from page 147)

Contact Committee Meeting March 9th and 10th.

Mr. S. C. Munson, Chairman of the Contact Committee of the American Sugar Cane League, has announced that the Baton Rouge meeting of the Contact Committee will be held this year on Tuesday and Wednesday, March 9th and 10th. Mr. W. G. Taggart, Director of the Louisiana State Experiment Stations, will issue the official notices in due time for the meeting.

Mule Treatment

Being strictly a tractor addict, I did not know until Lloyd L. Lauden told me a few days ago that some folks have a rather unique remedy for curing a mule of the "blind staggers."

It seems that when a mule starts staggering around like he is too full of hooch, all you have to do is get a board about one inch thick and eight or twelve inches wide, place the board gently on the mule's head and then wham the board with a sledge hammer, or an ax, or some other similar instrument. According to Lloyd, the mule gets up, after the original shock of course, and takes off in a straight line.

This is really good to know because our sugar market character "The Old Mule" very often suffers with the "blind staggers." Now all that we need is a board and a sledge hammer. Simple, ain't it?

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DEEP PLOWING
and
DRY WEATHER

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THE SUGAR BULLETIN

ol. 32—No. 11 MARCH 1, 1954

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

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THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

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The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Governor Kennon Urges Quota Increase

Governor Robert F. Kennon has asked the Secretaries of Agriculture, State, and Interior to support the efforts of the American Sugar Cane League to obtain an increase in the sugar quota for the Mainland Cane Area.

The Governor mailed the letter printed below to Secretary of Agriculture Benson, and similar letters to Secretary of State Dulles and Secretary of the Interior McKay, on February 1st.

We are very grateful to Governor Kennon for his support.

(Editor)

Honorable Ezra T. Benson,
The Secretary of Agriculture,
Washington, D. C.

Dear Mr. Benson:

This letter is written in support of the efforts of the American Sugar Cane League to obtain an increase in the quota for the Mainland Cane Area allowed under the Sugar Act of 1948, as amended.

The cane industry is of extreme economic importance to the most populous section of our State. The Sugar Act of 1948, as amended, fixes the quota for the Mainland Cane Area (Louisiana and Florida) at 500,000 tons of sugar raw value. Except for the year 1951 in which Louisiana had an unprecedented early freeze, the Mainland Cane Area has exceeded this quota each year for the past five years. The increase in production has been brought about by larger yields per acre and not through acreage increases.

A major factor in the accomplishment of these higher yields has been the research done by Department of Agriculture scientists. We can reap the benefits of this government research only if the government will permit us to keep our same acreage of cane. Obviously, a reduction in cane acreage will more than offset any increase in efficiency accomplished by greater yields per acre.

On January 1st this year the stocks of sugar being held by the Louisiana and Florida producers, because of quota restrictions, were so large that a drastic reduction in acreage will have to be ordered next year unless an increase in the Mainland Cane Area quota is obtained this year. Our farmers were ordered last fall to take an over-all reduction in acreage of about 8% as a result of the 1952-53 sugar production.

The consumption of sugar in the United States in 1954 has been estimated by your office at 8,400,000 tons. This is approximately 1,300,000 tons in excess of the consumption in the year 1948. Most of this increase is due to an increase in population of approximately 2,500,000 persons a year. The Mainland Cane area needs a quota increase of 100,000 tons. This amount is less than one year's average increase in consumption in this country due to population increases.

Responsible people in the sugar industry assure me that the need for the increase in the Mainland Cane Area is due to larger yields per acre and not because of any material increase in acreage. They further believe that the requested additional quota of 100,000 tons is reasonable in that it is less than one year's increase in consumption due to population growth and that an amendment to the Act is necessary for the reason that domestic sugar area quotas are not automatically increased in

(Continued On Page 169)

EXPERIMENTS ON THE FLOWERING OF SUGARCANE

S. J. P. Chilton and C. F. Moreland[1], *Department of Plant Pathology, Louisiana Agricultural Experiment Station, Baton Rouge, Louisiana*

The flowering of sugarcane, although usually considered an undesirable characteristic in a commercial variety, is essential for the production of new varieties of sugarcane. While several million seedlings of sugarcane are produced each year in the various breeding programs of the world, all are produced from flowers normally initiated in the autumn months. Through years of experience, crossing programs have been located in areas where flowering is most profuse. For example, in the United States of America, the crossing work is done at Canal Point, Clewiston, and Belle Glade, Fla., and more recently at Grand Isle, La.

The factors responsible for the flowering of sugarcane have not been well understood. The fact that flowers are produced in the fall and winter indicates that the shorter day lengths (or longer night lengths) of some period in the fall are probably responsible for the change over of the growing point of the sugarcane plant from the vegetative to the reproductive stage (Brandes, 1951), but with the exception of certain strains of *Saccharum spontaneum* (Sartoris, 1938; Dutt, 1945; Lee and Lin, 1950) which have been induced to flower experimentally, and a report by Brandes and Matz (1939) with Co. 281, the use of fixed day lengths seems to have been unsuccessful (Sartoris, 1938; Dutt, 1945; Lee and Lin, 1951).

Certain available information indicates that perhaps the gradual shortening of the day length which occurs in the fall may be the factor responsible for the flowering of sugarcane, at least in certain areas. (1) The floral initials appear on the descending curve of the shortening of the days in the fall and not on the ascending curve which occurs in winter and spring. If a fixed shortened day length were responsible for the floral production there should be two periods of flowering each year. (2) Some mechanism must be common to the world which causes a sequence in the flowering of different varieties.

If the gradual shortening of the day length, or preferably the increases in the night length, were responsible for the induction of floral initials in sugarcane, the stimulus could begin any time after June 21, and experiments would of necessity start with a day length of that date unless further information were available. In conversation with Dr. C. H. Wadleigh (Office of Sugar Plant Investigations, U. S. Dept. of Agriculture), information was obtained that in Hawaii, the technique developed by them to prevent flowering by exposure to light in the night time, was not operative prior to the first of September. This would indicate that night lengths of this period (September and later) were responsible for inducing floral initials and permitted a starting day for experimental work.

It is the purpose of this paper to report experiments which by gradually shortening the day length (or increasing night length) commercial varieties of sugarcane were induced to flower.

Experimental Studies

Two experiments were made in the spring, summer, and fall of 1953, using a light tight house (Figure 1) which was 10'x12'x13' high in the front and 12' high in the back.

Experiment One

Sugarcane plants of six varieties

(Continued On Next Page)

were planted from seed pieces in two-gallon and five-gallon crocks of soil in October 1952 and January 1953. The varieties were C. P. 29-116, C. P. 34-120, C. P. 36-13, C. P. 36-105, C. P. 44-101, and Co. 290. An analysis of the parentage of these six varieties is given in Table 1, and shows that included in their parentage are the species *Saccharum officinarum*, *S. barberi*, and *S. spontaneum* (Javan and Indian strains). As Co. 281, P. O. J. 213, P. O. J. 2725, and P. O. J 2878, all important parental varieties in the breeding programs of the world, are among the parents of these varieties, it would seem that a random sample of varieties was selected.

On May 17, 1953, the first experiment was begun with a time schedule as follows.

Since the period between sunrise and sunset at Honolulu, Hawaii is approximately 12 hours and 32 minutes, and the least active amount of daylight for sugarcane was not known, 12 minutes were arbitrarily added to 12 hours and 32 minutes, making a total of 12 hours and 44 minutes. This plus the period from sunset to dark was set as the length of the first day's exposure, i. e., the period between the time the sugarcane plants were brought out into the light in the morning until dark. The canes were replaced in the dark room after dark. The period between the time the canes were brought out in the morning and sunset was shortened approximately one minute a day for the first 30 days and about a minute and a half the remainder of the period (i. e., to August 7, 1953 for Co. 290).

On June 12, 1953, or 26 days after the treatment was begun, a floral initial was found in C. P. 29-116. By July 1, 1953, or 44 days after May 17, floral initials were found in all varieties except Co. 290. In this variety, floral initials were not found until early in August. The

TABLE 1. Parentage of six varieties of sugarcane used in photoperiod experiment in 1953.

Variety	Parentage	Species of Saccharum in Parentage			
		S. officinarum	S. barberi	S. spontaneum	
				Java	India
C. P. 29-116	P.O.J. 2725 x C. P. 1165	yes	yes	yes	no
C. P. 34-120	Co. 281 x P.O.J. 2878	yes	yes	yes	yes
C. P. 36-13 [1]	P.O.J. 2725	yes	no	yes	no
C. P. 36-105	Co. 281 x C. P. 1165	yes	yes	no	yes
C. P. 44-101	Co. 281 x C. P. 1165	yes	yes	no	yes
Co. 290	Co. 221 x Kansar (?)	yes	yes	no	yes

[1] Other parent originally supposed to be **Sorghum durra** but chromosome numbers indicate not correct, but probably due to apomixis (Sartoris, 1947).

TABLE 2. Summary of flowering of sugarcane in experiment one begun May 17, 1953.

Variety	Date Planted	No. Stalks	No. flowered
C. P. 29-116	10/12/52	1	1
	1/12/53	3	3
C. P. 34-120	10/12/52	4	4
	1/12/53	3	3
C. P. 36-13	10/12/52	1	1
C. P. 36-105	1/12/53	4	4
C. P. 44-101	10/12/52	2	2
	1/12/53	3	3
Co. 290	1/12/53	2	1*
Totals		23	22

* Other stalk reverted as shown by "witches broom" appearing.

Figure 1

first flowers began to emerge July 21, 1953 and the last, Co. 290, on October 6, 1953. Table 2 gives the summary of flowering, and it may be seen that 22 of 23 stalks which were permitted to complete the experiment flowered and that the non-flowering stalk had a floral initial, since the typical "witches broom" appeared which is characteristic of a reverted growing point.

Seed were planted from 19 of the 22 tassels and the germination data are given in Table 3. No attempt was made to cross the different varieties. In all, 18,354 seedlings were produced, an average of 966 per tassel. The largest number of seedlings from a single tassel was 4778.

Experiment Two

In the second experiment, begun on August 7, 1953, the original six varieties were again used. The source of the plants was the same as those used in the first experiment plus stools of C. P. 34-120, C. P. 36-105, C. P. 44-101, and Co. 290, which were dug up from the field in Baton Rouge, La. and transplanted to crocks on July 3, 1953. Also stools of B. H. 10/12, Badila, Co. 281, C. P. 1165, Cl. 41-142, F. 36-819, H. 109, P.O.J. 2725, and P.O.J. 2878 were dug up at Grand Isle, La. on July 10, 1953 and transplanted to crocks and brought to Baton Rouge. The canes from Grand Isle were from stubble which had been harvested the second week in April, and thus the plants were less than four months old on August 7, 1953. They were very short, being less than 3 feet to the last exposed ligule.

On August 7, 1953, the second experiment was begun, using the same sequence of day length as in experiment 1, except that beginning the

(Continued On Next Page)

first week in October the day length was shortened 3 minutes a day, since sunrise was coming after the time set to remove the plants from the dark house. On September 24, 1953, the senior author was late in putting the canes back into the dark room and a spotlight which came on after dark shone on the canes, breaking the sequence of day lengths. The experiment was discontinued November 3, 1953 because of an anticipated freeze and the canes which had not flowered were put in the greenhouse.

The first examination for floral initials was made on September 9, 1953, and initials were found in C. P. 29-116, C. P. 36-105, and Cl. 41-142. Examinations made two weeks later showed floral initials in C. P. 34-120, C. P. 44-101, C. P. 36-13, and Co. 290. Six of these varieties produced flowers, and the seventh, Co. 290, which was at the flag stage in January 1954, when opened showed the presence of flowers. Table 3 gives the results of this experiment.

Discussion

It is difficult to believe that flowers produced in the two experiments were due to chance. Because of the short stalks, early time after harvesting, and breaking of the day-length sequence on September 24, 1953, little can be concluded concerning the failure of the varieties from Grand Isle, with the exception of Cl. 41-142, to flower.

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TABLE 3. Germination of seed from 19 tassels of sugarcane produced in August and September 1953.

Plant No.	Variety	Date Planted	No. Seedlings	Number Av./Tassel
1	C. P. 29-116	1/12/53	202	
2	C. P. 29-116	1/12/53	80	
3	C. P. 29-116	1/12/53	43	
19	C. P. 29-116	10/12/52	23	
		Total	348	116
6	C. P. 34-120	10/12/52	339	
8	C. P. 34-120	10/12/52	468	
10	C. P. 34-120	10/12/52	258	
12	C. P. 34-120	1/12/53	75	
15	C. P. 34-120	1/12/53	45	
17	C. P. 34-120	10/12/53	6	
		Total	1191	199
13	C. P. 36-13	10/12/52	158	158
		Total	158	158
7	C. P. 36-105	1/12/53	1118	
11	C. P. 36-105	1/12/53	1403	
14	C. P. 36-105	1/12/53	3631	
18	C. P. 36-105	1/12/53	1180	
		Total	7332	1833
4	C. P. 44-101	1/12/53	4778	
5	C. P. 44-101	1/12/53	4308	
9	C. P. 44-101	10/12/52	6	
16	C. P. 44-101	10/12/52	233	
		Total	9325	1865
	Total (all seedlings)		18,354	966

TABLE 4. Resume of flowering of 7 varieties of sugarcane in photoperiod experiment No. 2 as of October 27, 1953. Experiment begun on August 7, 1953.

Variety	Date Planted or Put in Crocks	Total No. Stalks	No. Flowering or with Flowers Present
C. P. 29-116	1/12/53	7	6
C. P. 34-120	1/12/53	5	4
	7/3/53	3	3
C. P. 36-13	10/12/52	1	1
C. P. 36-105	1/12/53	2	2
	7/7/53	4	4
C. P. 44-101	1/12/53	5	5
	7/3/53	2	1
Co. 290	1/12/53	8	3
	7/3/53	8	3
Totals		41	31

Date Planted:
10/12/52 planted from seed pieces from Baton Rouge, La.
1/12/53 planted from seed pieces from Grand Isle, La.
7/ 3/53 stools dug up and transplanted to crocks from Baton Rouge, La.
7/10/53 stools dug up and transplanted to crocks from Grand Isle, La.

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[1]Acknowledgment is made to R. J. Steib, P. H. Dunckelman, and Wray Birchfield for assistance. Also to the K.C.S.L. & A.RR. and Godchaux Sugars, Inc. for the use of railroad tracks and carts.

GOVERNOR KENNON

(Continued From Page 164)

proportion to increases in consumption in the United States as is the case with the quotas for foreign countries which supply sugar to the United States. The increase in quota will counteract the effect of the Sugar Act which, as now written, grants to foreign countries the benefit of 100% of any increase in consumption.

I realize the tremendous responsibilities of your position and the many calls upon your time. In submitting this letter, I do so with the hope of giving you and the head of your appropriate department the benefit of the viewpoint of our state and the American Sugar Cane League. I do not expect a lengthy answer but will appreciate full and friendly consideration by your Department of the merits of the request by the American Sugar Cane League for the increase in quota.

I am sending a similar letter to Secretaries Dulles and McKay.

With good wishes and congratulations on the fine work you are doing in the public service, I am

Sincerely,
ROBERT F. KENNON.

* * *

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PROGRESS REPORT ON THE STUDY OF STUNTING DISEASE

By E. V. Abbott, Plant Pathologist, Field Crops Research Branch Agricultural Research Service, U. S. Department of Agriculture

During 1953, experiments were continued on the virus stunting disease, the presence of which in Louisiana was reported about a year ago.[1] These included field surveys to determine its prevalence, studies of its effect on yields, the relative resistance of different varieties to it, and control through heat treatments of seed cane.

Symptoms of the disease as now recognized, such as stunting or retarded growth, reduction in number and diameter of the stalks in the stool, and discoloration of the internal stalk tissues at the base of the nodes, were observed in all of the commercial varieties in all parts of the sugarcane district of the State. Determining the exact percentage of infection by this disease in field surveys, such as can be done with mosaic, is not possible at present because it does not have sufficiently definite symptoms by which all infected plants can be readily recognized. Nevertheless, the non-uniform growth in a field, which is apparent when this disease is prevalent, and stools with abnormally slender stalks, were observed commonly, in addition to the internal stalk symptoms. The indications are that the disease has been present in the State for a long time, and that it has been and is now an important cause of reduced yields in our commercial varieties. While the losses it causes may not be as severe in any one year as those from red rot, for example, which sometimes causes complete stand losses, the stunting disease may be of far greater importance over a period of years since it is believed to be one of the reasons our varieties have shown progressive decline and eventual failure.

The results of experiments harvested in 1953 provide further proof of the importance of the disease. In the first stubble of an experiment with C. P. 44/101 on heavy soil, the weight of cane from plots of which the seed was inoculated with the stunting disease virus at planting time in October 1951, was 36.2 percent less than from plots of equal size in which seed of the same source was planted without inoculation. Last year, as plant cane, the reduction in yield in this experiment was 26 percent. The effect of the disease on the height and diameter of the stalks in this experiment is apparent in Fig. 1.

In a similar plant cane experiment harvested in 1953, in which identical lots of seed had been planted in replicated plots, in half of which the seed was inoculated and the other half was not inoculated, the average weight of cane was 11.7 percent less in the inoculated plots. In both the plant cane and stubble experiments, average sucroses and purities were slightly higher in the inoculated than in the control plots.

Experiments are in progress to determine the best means of controlling the disease or minimizing its effects. According to work done in Australia, where the disease was first described and studied, heat treatment of seed cane offers the best means of control. Progress on the work being done in Louisiana under the direction of the committee appointed by the Chairman of the Contact Commitee of the American Sugar Cane League has been discussed by Mr. L. L. Lauden in the July 15, August 15 and November 1 issues of THE SUGAR BULLETIN, and need not be reviewed here. In addition to this work, experiments are in progress to determine the relative tolerance of both commercial and unreleased varieties to

the heat treatments necessary to eliminate the virus. An important point to be determined in Louisiana is how well plants grown from heat-treated seed planted in the summer and fall will survive the winter. Some information on these points will be obtained before the planting season of 1954, and will be made available to the industry through the reports of the committee on stunting disease control.

Fig. 1. Effect of stunting disease on yield of C. P. 44/101 1st stubble. 30-stalk bundles of cane from plots planted with the same source of seed. Left, seed inoculated at planting time with the stunting disease virus; right, not inoculated.

It is not the intent that all seed cane planted commercially will be heat treated. For several reasons this would not be practical in Louisiana. The purpose of the seed treatment is to establish plots of disease-free cane from which increases can be made, with due precaution against reinfection, to provide the seed required for commercial planting. In fact, a commercial variety freed of the virus could be looked upon in the nature of a new variety and propagated accordingly.

[1] Sugar Bulletin January 1, 1953.

—o—

Contact Committee Meeting

The Contact Committee of the American Sugar Cane League will begin a two day meeting on Tuesday March 9th in the Agricultural Engineering Auditorium on the campus of Louisiana State University in Baton Rouge, La. Everyone interested in the Louisiana sugar industry is invited to attend this meeting.

The Dates

March 9th and 10th

The Place

Agricultural Engineering Auditorium of L.S.U.

The Time

9:30 in the morning beginning March 9th

IN THE FIELD WITH LLOYD LAUDEN

Hot Air Treatment Of Sugarcane In An Effort To Control Stunting Disease

The following report was made at the Annual Meeting of the American Society of Sugar Cane Technologists held in Houma, Louisiana, on February 15th, 1954.

The report, The Occurrence of a Hitherto Unrecognized Growth-Retarding Disease of Sugarcane in Louisiana by Dr. E. V. Abbott of the USDA Sugar Station, Houma, La., gave an account of a new disease which was spreading very rapidly throughout the cane fields of Louisiana. Because of the concern this report created within the Louisiana sugar industry Mr. Stephen C. Munson, Chairman of the Contact Committee of the American Sugar Cane League, appointed a committee composed of Messrs. A. H. Feske, Chairman, W. G. Taggart, E. V. Abbott, S. J. P. Chilton, Louis Arceneaux, Elliott Jones and Lloyd L. Lauden to study the control of this disease.

This committee, after considering the data from Australia and the limited amount of material Louisiana State University and the Houma Station were able to obtain in the period January through August, 1953, recommended that the League set aside a sum not to exceed $5,000 to be used in the construction and operation of a mobile hot air treating unit. This committee decided in favor of the hot air treatment over the hot water treatment after germination tests in August indicated that better results were obtained with hot air treatments of 129°F for 8 hours than with treatments using hot water at either 125°F for 1 1/2 hours or 122°F for 2 hours. The plantations chosen by this committee were Secondary Increase Stations already in the cane increase program and well distributed geographically over the sugar cane area. The varieties selected for treatment were CP36-105, CP44-101, CP34-120, CP36-13, CP 43-47, CP29-320, Cp44-155 and Co-290.

After considering the selection of a unit, a La Cross trailer with a 5 ton White power unit with a bed 9 feet wide and 26 feet long owned by the Louisiana State Agricultural Engineering Department was used. A chamber 9 feet wide, 26 feet long and 8 feet tall was built and secured

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to this trailer bed. This chamber was constructed of 1/4 inch plywood and covered with 55# roll roofing paper. A Doherty crop dryer supplied the heat. This dryer is powered by a 20 horse power V-4 Wisconsin engine with a propeller blower assembled directly to the crank shaft. The capacity of this dryer is 1,000,000 BTU of heat and an air flow of 30,000 CFM against a 3/4" static. This dryer was mounted on the apron of the trailer. Temperatures were observed in the cane with a Tagg-Heppenstal potentiometer. A recording thermometer was used to indicate the air temperature inside the chamber.

The League engaged Mr. Leon Nugent, a graduate of Louisiana State University, to operate this unit.

An attempt to control the distribution of heat when the chamber was solidly packed with cane failed even though the heat entered the bottom and was exhausted from the top. A central ceiling duct containing 6 variable size outlets was ultimately constructed and exhaust ports were cut into the flooring. Removable shelves were then installed to allow good circulation of heat. Large loading doors were constructed on one side of the chamber. All cane treated was hand loaded into the chamber. Approximately two hours were required to load the averate treatment of 4.5 tons when four to six workers were used. Unloading time averaged one and one-half hours when the same number of workers were used.

Successful operation largely depended upon the manner in which the cane was placed on the shelves inside the chamber. Best distribution of heat resulted when the cane was stacked so as to leave an air space between the shelves. It was necessary to pack the cane tightly against the walls both on the sides

(Continued On Next Page)

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and the ends. This discouraged the tendency of the air to channel the walls. Experience proved that a heavy layer of cane on the floor of the chamber resulted in better distribution of heat. The first shelf in the rear end of the truck proved unnecessary and was removed. The cane here was stacked tightly to about four inches of the second shelf.

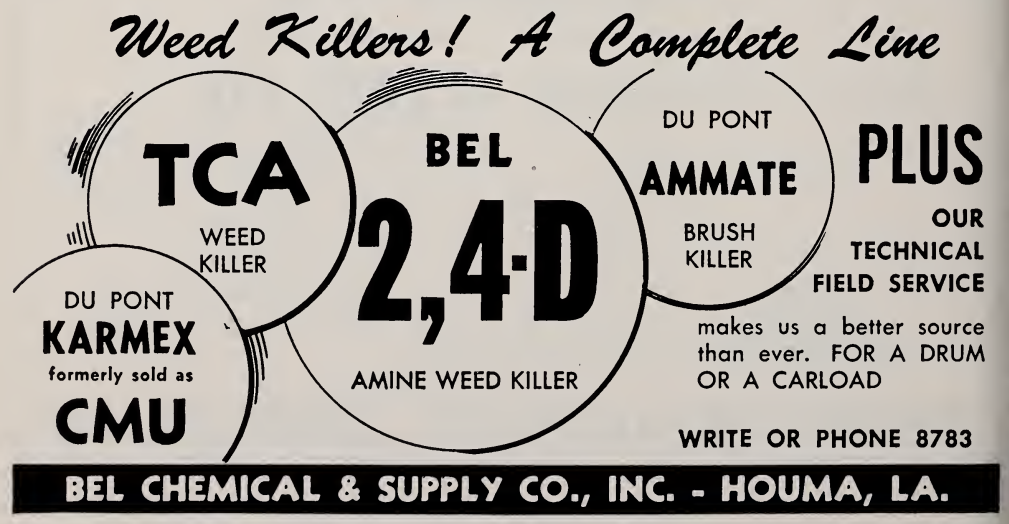
Trials placing thermocouples at various places within the chamber indicated that the top of the chamber became hot first and remained the hottest. The bottom or the floor layer was next to become hot and remained somewhat below the temperature of the top layer. The center layer for the entire length of the chamber was last to become hot and was the most difficult to maintain at the required temperature. For most treatments seven thermocouples were used.

Three thermocouples were placed in three canes in the top layer, one in the forward end, one in the center section, and one in the rear of the chamber. Three other thermocouples were placed in the center layer, one forward, one center, and one in the rear of the chamber. The other thermocouple measured the temperature immediately below the air duct. Temperatures were observed and recorded at 15 minute intervals in all treatments.

In several treatments the desired temperature in one or more sections

Plantations	Varieties Treated					
	34-120	36-13	36-105	44-101	44-155	Co. 290
			Tons			
Smithfield *			10.0	10.0		
St. James Co-op.			4.0	4.5		
Glenwood				4.5		
Clovelly Farms	9.0					
Oaklawn		4.0	4.5	4.5	4.5	4.5
Orange Grove (Iberia)			11.0	20.0	2.0	
Landry (Iberia)				5.0		
Enterprise Plantation			6.0	9.0		
Godchaux (Raceland)				13.5		
Totals	9.0	4.0	35.5	71.0	6.5	4.5

* Cane treated in solid mass, some sections temperatures reached 180°F.; other sections temperatures reached only 79°F. This cane is considered of no value.



of the chamber was never reached. This cane, however, has been planted and will be observed. The air temperature inside the chamber always reached at least 129°F, and in some instances went far above 129°F.

Three factors which affected the time required for the canes to reach 129°F were the size of the cane, the amount of leaves on the cane, and the climatic conditions. Clean, small barreled canes treated on warm sunny days resulted in good treatments. Cloudy, cold, or rainy days were not conducive to good treatments regardless of the size of the cane.

Unfortunately this unit was not completed and ready for use until near the beginning of grinding and at that time many places originally selected were extremely busy with harvesting operations. The strike also prevented the treatment of cane at several places. Because the Western area was not affected by the strike more cane was treated there. In spite of a late start and the strike difficulties, approximately 131 tons of cane were treated.

Below are the places visited and the varieties tested. (*See table*)

Better distribution of heat could be brought about with this unit by insulating the chamber. There is also the possibility that the installation of deflectors at the openings in the ducts could assist in better distribution of heat.

Treated canes have been dug up for observation to determine the extent germination was impaired. The eyes on most material observed seemed to be sound and shoots were beginning to appear by January 5, 1954. Most of the treated material was planted rather late, and in some cases, in extremely dry soil.

It is too early to draw any conclusions from this experiment at this time. It is hoped, however, that the material treated will come up to a good stand and be free of the Stunting Disease.

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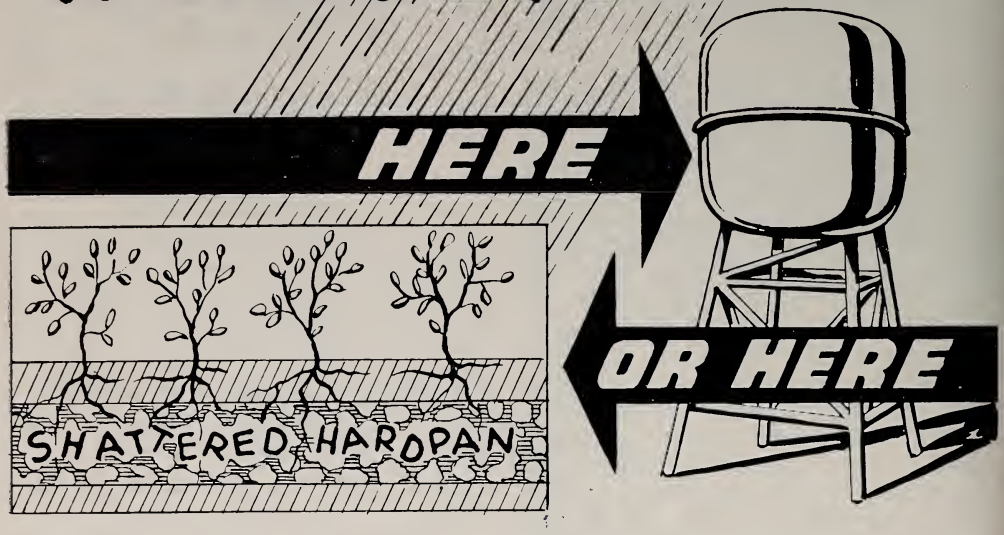

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THE SUGAR BULLETIN

. 32—No. 12 MARCH 15, 1954

cial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

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for the control of

SUGAR CANE BORER*

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THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Season's Average Prices

The 1953-54 Louisiana cane pricing period ended its twenty week period on February 25th and on page 186 of this issue you will find the official cane settlement prices that were used by the Sugar Branch in arriving at the average prices of raw sugar and blackstrap molasses for cane settlement purposes.

It will be noted that the season's average of raw sugar is 6.0932 cents per pound which is .1156 cents less than the average for the 1952-53 season, and that the season's average price of blackstrap molasses is 10.0087 cents a gallon which is 1.2071 cents more than the average for the 1952-53 season.

All the Government prices are identical with those issued by the Louisiana Sugar Exchange.

The Exchange advises us that the freight differential for the season just completed averaged 3.424 cents. This compares with a freight differential for the 1952-53 season of 4.438 cents.

Bills Introduced

The opening guns in the fight of the Mainland Cane Area to obtain an increase of 100,000 tons in its quota, were fired in Washington on February 25th when identical bills were introduced in the House and the Senate calling for an amendment to the Sugar Act that would increase the quota for the Domestic Cane Area to 600,000 tons.

S. 3019 has been introduced in the Senate by Senator Ellender for himself and Senator Long, and for Senators Holland and Smathers of Florida.

H. R. 8101 has been introduced in the House by Congressman Willis, and H. R. 8072 by Congressman Boggs. On March 2nd H. R. 8172 was introduced in the House by Congressman Rogers of Florida.

The H. R. bills have been referred to the House Committee on Agriculture.

Senator Ellender's bill has been referred to the Senate Finance Committee.

A statement of the American Sugar Cane League regarding these bills appears on page 181 of this issue.

E. C. Simon Heads Technologists

E. C. Simon, Agronomist of the Louisiana State Experiment Station, was elected President of the American Society of Sugar Cane Technologists at the Annual Meeting of the Society held in Houma, La., on February 15th.

Other officers elected were C. C. Savoie, of Bell Rose, 1st Vice-President; A. L. Dugas, of L. S. U., 2nd Vice-President; J. T. Landry, of Houma, Chairman of the Manufacturing Section; Richard McCarthy, of Godchaux Sugars, Chairman of the Agricultural Section; W. S. Chadwick, of Bayou Goula, Chairman at Large; and Arthur G. Keller of L. S. U., Secretary-Treasurer.

Willis Addresses Meeting

The Honorable Edwin E. Willis, Congressman from the Third Louisiana Congressional District, was the featured speaker at the Annual Dinner of the Society. The Congressman spoke on the value of research to the sugar industry.

If Ed Willis needed any proof to show that he knows the problems facing the Louisiana cane farmers, this speech supplied it in large quantities. He thoroughly covered the needs of our industry in his report which, incidentally, he has included in an address to the House of Representatives urging the expansion of the Government research

(Continued on Page 191)

STATEMENT OF THE AMERICAN SUGAR CANE LEA REGARDING BILLS INTRODUCED IN CONGRESS TO INCREASE THE MAINLAND CANE AREA SUGAR QUOTA S. 3019, H.R. 8072, H.R. 8101, H.R. 8172

In order to avoid the plowing up of thousands of acres of sugar cane now growing in Louisiana and Florida, the Congress must amend the Sugar Act of 1948 to give the mainland cane area a 100,000 ton quota increase. Sugar Legislation has always been bi-partisan, and we believe neither party will countenance the destruction of this important food crop especially since the United States imports almost half its sugar from foreign countries.

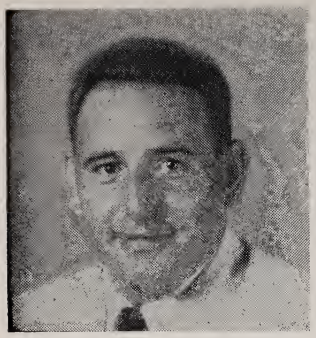
Sugar legislation has a 20 year history. The pattern was changed somewhat in 1948, when fixed quotas totaling 4,268,000 tons were assigned to domestic areas, of which the mainland cane area was granted 500,000 tons. The remainder of our needs—approximately another 3,000,000 tons —was assigned to foreign nations. The Act provided that all increases in consumption be assigned to the quotas of Cuba and certain other neighbor countries. The annual consumption now is more than 1,000,000 tons above that of 1948. There has been one amendment to the Act since 1948 to allow two domestic areas (Puerto Rico and the Virgin Islands) to share in this consumption increase. The amount re-assigned to them was 176,000 tons. It is now the proper time to make another such assignment by granting Louisiana and Florida 100,000 tons. That amount is less than the amount needed to satisfy increased consumption resulting from one year's population increase.

The mainland cane area has produced more than its 500,000 ton quota in four of the last five years on approximately the same acreage the area has maintained for many years; in fact, the sugar cane acreage has varied no more than two per cent from the acreage at the time of enactment of the 1948 Sugar Act. The carryover of unmarketable sugar from one year to the next has become burdensome and immediate relief is necessary. The increase in production is the result of larger yields per acre made possible by a splendid research program in which the United States Department of Agriculture has participated. The Department of Agriculture finds itself in the untenable position of having helped the mainland cane growers produce more sugar and now must tell the growers they must destroy sugar although the need for sugar has increased tremendously. The remedy to this paradoxical situation lies with Congress.

We propose a 100,000 ton increase in the mainland cane sugar area quota. This quota increase is less than one year's average increase in sugar consumption due to population growth. It is an insignificant amount of sugar as compared to the more than eight million tons of sugar consumed in the United States every year; but it is of paramount importance to the welfare of more than 50,000 individuals engaged in growing and processing sugarcane and to the entire economy of the mainland cane area. Unless the increase is granted, growers must destroy up to 25 per cent of their sugar cane. An acreage reduction of about eight per cent has already been imposed and will likely be kept in effect even after the proposed 100,000 ton quota increase is granted. The cane growers are willing to be subjected to reasonable restrictions but large scale destruction of valuable cane is unreasonable.

Farm legislation involving other crops is being studied to solve the

(Continued on next page)



IN THE FIELD WITH LLOYD LAUDEN

Fertilizer Recommendations For 1954

Farmers should fertilize sugar cane according to the recommendations of the scientists of the Houma Station and the Louisiana Agricultural Experiment Station. The scientists of both stations have tried various amounts of fertilizer in many experiments located geographically over the entire sugar belt for many years. Their data has been carefully analyzed and the results tell us the amounts of fertilizer that will give profitable returns.

The manner in which tests are conducted by the scientists to determine what amount of fertilizer is best is not one in which a given amount of fertilizer is applied to an acre, another amount to another acre, and a third amount to another acre as has been done on individual farms. It is granted that this method will sometimes give a good indication but, by the same token, this method is subject to much error. Differences in the inherent fertility of the three acres may very well cause a great error. Soil type may well change at any point in the three acres to give an unfair advantage or disadvantage to one plot or another. One acre may have received, in prior years, better care than the others to give that acre an unfair advantage. Many other factors can distort the results received.

The scientists, aware of the errors of the aforementioned type of experiment, attempt to remove error by using a greater number of plots in which each fertilizer treatment is replicated a number of times. An experimental design is drawn up so that each fertilizer treatment appears three or four times within one large plot. After each plot is harvested, yields are analyzed according to a procedure which removes most of the error and results in a true measure of the differences between the fertilizer treatments.

In general, six pounds of commercial nitrogen applied to sugar cane increases the production one ton. This rate of increase applies to applications of forty to sixty pounds of nitrogen on plant cane and eighty to one hundred pounds of nitrogen on stubble cane. A one ton increase in yield will pay for the cost of thirty pounds of nitrogen in most nitrogen fertilizer.

Remember, a twenty percent nitrogen content marked on the label of a fertilizer bag means that a one hundred pound bag of fertilizer contains only twenty pounds of nitrogen and four bags of that fertilizer would have to be placed on an acre of stubble cane to give eighty pounds of nitrogen per acre.

(Continued on Page 188)

pressing problem of burdensome surpluses. Some crop curtailment has already been necessary, and no one likes to curtail production. It should be a pleasant duty for all members of Congress to approve *this* piece of legislation to avoid the destruction of sugar cane since sugar is one commodity produced in this country to the extent of only half our needs.

IN WASHINGTON WITH JOE FERRIS

A Sub-committee of the Senate Foreign Relations Committee will hold a hearing on the International Sugar Agreement March 18, 1954.

Members of the Sub-committee are Senators Aiken, Chairman, Capehart, Ferguson, George and Mansfield.

The time and place of the hearing is yet to be announced.

Wadleigh Resigns

Anouncement of the resignation of Dr. Cecil H. Wadleigh, Head of the Section of Sugar Crops, will come as a surprise to his many friends in Louisiana and Florida.

In a memorandum to all Divisions and Branches of the Agricultural Research Service, Dr. A. H. Moseman, Director of Crops Research, gave notice that Dr. Wadleigh would leave the Field Crops Branch May 1, 1954 to accept the position as Head of the Section of Basic Soil and Plant Relationships, Soil and Water Conservation Research Branch. Dr. Wadleigh has been Head of the Division of Sugar Plant Investigations since August 1951.

The new Head of the Section of Sugar Crops will be Dr. H. M. Tysdal. Since 1948 Dr. Tysdal has made significant contributions to alfalfa and guayule improvement and has developed many improved techniques in crop improvement research at the Plant Industry Station at Beltsville, Maryland.

In announcing the change, Dr. Moseman said:

"We have been very appreciative of the fine cooperative relations with sugar plant grower organizations and industry representatives. During the past few years our relationships have been extremely good. We are anxious to maintain these mutual working arrangements. The selection of Dr. Wadleigh's successor has been made with this in mind."

Benson Fights Back

The House Committee on Agriculture on March 10, 1954 began a full month of hearings on the administration's proposed farm program.

The Number One proponent of that plan, Secretary of Agriculture Benson, appeared as the first witness. Benson was subjected to heavy criticism by Democrats and Republicans alike. Representative Harold Cooley of North Carolina, ranking Democratic member of the Committee, summed up the opposition by saying: "Your plan reminds me of the mountain that labored and brought forth a mouse."

Benson stood his ground even under the heavy barrage of questions and caustic comment from Committee members, most of whom advocate maintaining price supports at 90 percent of parity. He told the Committee he would "probably recommend" that President Eisenhower veto extension of the 90 percent supports.

USDA REVISES 1954 MARKETING ALLOTMENTS FOR MAINLAND CANE SUGAR AREA

On March 5th the U. S. Department of Agriculture announced a revision of the preliminary allotments to processors of the 1954 sugar quota for the mainland cane sugar area announced December 29, 1953 (USDA 3176-53).

The order gives effect to the rec-

Processors	Allotments Total: (1) (short tons, raw value)	85 Percent (2)
Albania Sugar Coop., Inc.	5,038	4,282
Alice C. Ref. & Plntg., Inc.	5,776	4,910
Alma Plantation, Ltd.	5,591	4,752
J. Aron & Co., Inc.	10,831	9,206
Billeaud Sugar Factory	6,954	5,911
Breaux Bridge Sugar Coop., Inc.	4,747	4,035
Burton-Sutton Oil Co., Inc.	7,814	6,642
Caire and Graugnard	2,777	2,360
Caldwell Sugar Coop., Inc.	9,759	8,295
Catherine Sugar Co., Inc.	5,440	4,624
Columbia Sugar Company	4,677	3,975
Cora-Texas Mfg., Company, Inc.	1,830	1,556
Cypremort Sugar Co., Inc.	4,261	3,622
Dugas & LeBlanc, Ltd.	9,866	8,386
Duhe & Bourgeois Sugar Co., Inc.	6,625	5,631
Erath Sugar Co., Ltd.	4,087	3,474
Evan Hall Sugar Coop., Inc.	15,569	13,234
Evangeline Pepper & Food Prod., Inc.	3,675	3,124
Fellsmere Sugar Prod. Assn.	8,012	6,810
Frisco Cane Company, Inc.	662	563
Glenwood Coop., Inc.	8,640	7,344
Godchaux Sugars, Inc.	30,081	25,569
Helvetia Sugar Coop., Inc.	5,408	4,597
Iberia Sugar Coop., Inc.	11,023	9,370
LaFourche Sugar Co.	11,995	10,196
Harry L. Laws & Co., Inc.	7,682	6,530
Levert-St. John, Inc.	7,377	6,270
Loisel Sugar Company, Inc.	4,942	4,201
Louisiana State Penitentiary	2,507	2,131
Lulu Factory, Inc.	9,822	8,349
Meeker Sugar Coop., Inc.	2,926	2,487
Milliken & Farwell, Inc.	10,158	8,634
Okeelanta Sugar Refinery, Inc.	13,529	11,500
M. A. Patout & Son, Ltd.	7,292	6,198
Poplar Grove Pltg. and Ref. Co., Inc.	4,681	3,979
E. G. Robichaux Company, Ltd.	3,933	3,343
St. James Sugar Coop., Inc.	9,120	7,752
St. Mary Sugar Coop., Inc.	8,718	7,410
Slack Bros., Inc.	2,763	2,349
Smedes Bros., Inc.	3,545	3,013
South Coast Corp.	33,104	28,138
Southdown Sugars, Inc.	42,131	35,811
Sterling Sugars, Inc.	7,079	6,017
J. Supple's Sons Pltg. Co., Inc.	3,046	2,589
United States Sugar Corp.	97,034	82,479
Valentine Sugars, Inc.	8,340	7,089
Vermilion Sugar Company, Inc.	2,134	1,814
Vida Sugars, Inc.	3,627	3,083
A. Wilbert's Sons Lbr. & Sh. Co.	7,092	6,028
Young's Industries, Inc.	6,155	5,232
Louisiana State University	125	106
All other persons	0	0
Totals	500,000	425,000

RECOMMENDATIONS FOR THE CONTROL OF THE SUGARCANE BORER IN LOUISIANA IN 1954

A. L. Dugas and C. E. Smith
Louisiana Agricultural Experiment Station

The following recommendations for control of the sugarcane borer by dusting with cryolite or ryania are based on many years research by both the Louisiana Agricultural Experiment Station and the Federal Station at Houma. Chemical control is recommended only where the proper checking of fields have revealed a borer infestation sufficiently heavy to justify the expenditure. Other control practices, especially those which aid in destroying overwintering populations of borers, should not be neglected with the idea of depending entirely upon insecticides. Such cultural practices properly applied may eliminate the need of dusting in some instances or at least reduce the acreage requiring it. By lowering the population to a more normal one may also insure more effective control where chemicals are used.

I. *General recommendations*:

1. On a large farm or where community cooperation exists an overall control program is preferable and involves starting with first generation dusting of all acreage found to be sufficiently infested. Additional infestations developing later should be controlled by second and sometimes third generation dusting. Under the prevailing conditions of a heavy, widespread infestation, first generation control would likely not be entirely successful except in a good community program.

2. For treating relatively small parts of large infested areas or a small farm surrounded by infested cane, first generation control is not recommended, because of the possibilities of reinfestation by later generations from the nearby untreated cane and/or corn.

3. Although these recommendations apply to sugarcane, corn should also be dusted for borer control where the infestation and growth justifies it. Only ryania can be used on corn since cryolite may result in serious plant injury.

II *First generation control:*

1. Minimum borer infestations requiring dusting.

a. *Egg counts* — Five egg masses per man-hour.

b. *Leaf signs*—A minimum of 10 stools per 200 row feet or 360 per acre showing leaf signs. First, use egg counts which should reveal the heavier infested areas, then resort to leaf sign counts. Egg counts may be entirely impractical in many instances.

(Continued on Page 187)

ALLOTMENTS

ommendation for minimum allotments, which was concurred in by all allottees. In all other respects it follows the method of allotment proposed by the government at the hearing in New Orleans, La., on January 6, 1954. The minimum allotment provisions required an increase in the allotments of 4 of the 51 allottees.

The quantity of sugar which may be marketed by the individual processors prior to September 1, 1954, cannot exceed 85 percent of the allotments established by the order. This limitation is necessary to avoid marketings in excess of final allotments, which will be based on final data as provided for in the record of the hearing.

The individual allotments of the various processors and the quantities of which may be marketed prior to September 1, 1954, are shown in the accompanying table.

OFFICIAL AVERAGE PRICES FOR THE 1953-54 PRICING PERIOD

The following letter was issued by the ASC on February 26th.

The Louisiana Sugar Exchange, Inc., New Orleans, Louisiana, quotes the following as the official average prices of the following grade of sugar and molasses sold on this exchange during the weeks ending as indicated:

Week ending October 15, 1953
Raws 6.40, Blackstrap 11.00 cents.

Week ending October 22, 1953
Raws 6.35, Blackstrap 11.00 cents.

Week ending October 29, 1953
Raws 6.34, Blackstrap 10.46 cents.

Week ending November 5, 1953
Raws 6.315, Blackstrap 9.625 cents.

Week ending November 12, 1953
Raws 6.13, Blackstrap 8.96 cents.

Week ending November 19, 1953
Raws 6.01, Blackstrap 9.00 cents.

Week ending November 26, 1953
Raws 6.09, Blackstrap 9.06 cents.

Week Ending December 3, 1953
Raws 6.16, Blackstrap 9.55 cents.

Week Ending December 10, 1953
Raws 6.03, Blackstrap 9.925 cents.

Week ending December 17, 1953
Raws 5.92, Blackstrap 10.03 cents

Week ending December 24, 1953
Raws 5.93, Blackstrap 10.275 cents

Week ending December 31, 1953
Raws 6.02, Blackstrap 10.50 cents.

Week ending January 7, 1954
Raws 6.00, Blackstrap 10.44 cents

Week ending January 14, 1954
Raws 5.98, Blackstrap 10.45 cents.

Week ending January 21, 1954
Raws 6.07, Blackstrap 10.25 cents.

Week ending January 28, 1945
Raws 5.98, Blackstrap 10.25 cents.

Week ending February 4, 1954
Raws 5.98, Blackstrap 10.15 cents.

Week ending February 11, 1954
Raws 5.99, Blackstrap 9.75 cents.

Week ending February 18, 1954
Raws 6.02, Blackstrap 9.75 cents.

Week ending February 25, 1954
Raws 6.15, Blackstrap 9.75 cents.

The season's average price of raw sugar is 6.0932 cents per pound.

The prices of standard sugar cane for mills located in the three freight areas are as follows:

1. 6.390 dollars per ton for mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers and southeast of New Iberia west of the Atchafalaya.

2. 6.353 dollars per ton for mills located north and west of New Iberia west of the Atchafalaya River.

3. 6.459 dollars per ton for all mills except those located as in paragraphs 1 and 2 above.

The season's average price of blackstrap molasses is 10.0087 cents per gallon and the molasses bonus is 14.231 cents per actual net ton of sugar cane.

Please prepare Forms SU-128, Growers' Deliveries of Sugar Cane, (Compiled List), in accordance with instructions contained in 1953 Sugar Mill Letter Number 12, issued February 11, 1954.

(Signed)
L. A. Mullin, Chairman
State ASC Committee

BORER CONTROL

(Continued from Page 185)

2. Insecticides, dosage and applications.

a. Use either undiluted cryolite (synthetic or natural) or 40 per cent ryania at the rate of 10 to 12 pounds per acre per application.

b. Make 4 weekly applications, unless proper checking indicates more or fewer are needed.

III *Second generation control:*

1. Minimum borer infestations requiring dusting.

a. *Deadhearts*—A minimum of 14 per 200 row feet or 500 per acre.

b. *Leaf signs*—10 stools per 200 row feet or 360 stools per acre showing leaf signs (can be used in small cane only).

c. *Leaf sheath feeding* — 10 stools per 200 row feet or 360 stools per acre showing leaf sheath feeding.

Begin the selection of fields on the basis of deadhearts, and then follow, especially in adjoining fields, with egg mass, leaf sign, and leaf sheath feeding counts.

2. Insecticides, dosage and applications.

a. Use either 40 per cent Ryania or undiluted cryolite at the rate of 12 to 15 pounds per acre per application (Experimental data show that Ryania does better than cryolite against 2nd and 3rd generations and will not build-up the yellow sugarcane aphid).

b. Make 4 weekly applications, unless field conditions indicate more or fewer are needed.

IV *Third generation control:*

1. Minimum borer infestations requiring dusting.

a. *Leaf signs*—Numerous leaf signs generally, especially in stunted cane of subnormal growth.

b. *Leaf sheath feeding*—10 stools per 200 row feet or 360 per acre showing leaf sheath feeding.

2. Insecticide, dosage, and applications.

a. Use 40 per cent Ryania at the rate of 12 to 15 pounds per acre per application. Cryolite is not recommended.

b. Make 4 weekly applications.

Plant cane short in growth is most likely to be heavily damaged by third generation borers.

V *The following are important for successful control of either generation:*

1. Make proper field examinations to determine where and when to dust. This necessitates continuous weekly checking.

2. Start dusting with a general hatching of small borers, but before the larvae begin boring into the plant.

3. As a general rule, four applications at weekly intervals are necessary; however, proper checking may reveal the need of only three or a fifth in some individual fields.

4. Apply the dusts at the recommended dosages while the air is quiet and the plants are moist or wet with dew, which is usually between 6 p.m. and 9 a.m. Evening dusting after the wind subsides is satisfactory. It is important that the application rates be raised to the higher limits specified for each generation where the borer infestation is heavy or cane growth is unusually dense.

5. Use an airplane for treating large areas. The width of swath should not exceed 36 feet, and the plane should be flown at the proper height, which will vary with atmospheric conditions, to insure proper distribution of the dust.

6. A power ground-dusting machine or rotary hand gun may be used for treating smaller areas.

(Continued on next page)

About 7 acres af cane can be treated per hour with a 3-row ground machine and about 1 acre per hour with a hand gun. Dusting more than 300 acres on any one plantation by ground machine is impractical.

7. On ground machines, two nozzles to the row give some insurance against incomplete coverage through clogging or misplacement of nozzles.

VI *Sprays:*

Although sprays have shown some promise, they are not recommended because of the increased cost of application.

VII *Other insecticides:*

Insecticides other than cryolite or Ryania are not recommended because they have not given comparable control, and may even account for an increase in borer infestation because of their toxic effect upon natural enemies of the borer.

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IN THE FIELD

(Continued from Page 182)

Results from using fertilizer will vary from year to year depending upon weather. It is certain, however, cane well fertilized will outproduce cane not fertilized even in years of unfavorable weather.

The returns from money invested in fertilizer certainly justify greater use of fertilizer on sugar cane. One dollar invested in fertilizer will usually return seven dollars on good stands of cane properly cultivated.

Below are the fertilizer recommendations of the U. S. D. A. Sugar Station at Houma and the Louisiana Agricultural Experiment Station of Baton Rouge:

U. S. D. A. Fertilizer Recommendations for Sugarcane for 1954

by Lester Davidson

In the Western Section, average results of field fertilizer experiments indicate that 40 pounds of nitrogen per acre are sufficient for plant cane. Stubble cane requires about 60 to 80 pounds of nitrogen per acre, and profitable response is often obtained from the use of up to 100 pounds per acre on some of the lighter soils.

In the Eastern Section, average results indicate that 40 pounds of

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nitrogen per acre should be used on plant cane on light soil, and 60 to 80 pounds on plant cane on heavy soil. The use of 60 to 80 pounds of nitrogen per acre on stubble cane, on both light and heavy soil, will usually result in profitable yield increases.

Although stubble cane on light soils in both the Western and Eastern Sections shows its major response to nitrogen, additional yield increases have been obtained in some experiments from the use of phosphate or potash, or both, especially when combined with the higher rates of nitrogen fertilization.

In the Western Section, on Baldwin soil on Albania Plantation, large yield increases were obtained from the use of complete mixtures as compared to nitrogen alone. In the Eastern Section, on Commerce very fine sandy loam, a well drained soil often slightly elevated above the surrounding land, large yield increases from complete mixtures as compared to nitrogen alone were obtained in experiments on St. Rose, Mary, Forest Grove, and Webre Plantations. It is reasonable to assume that other growers might increase their yields by using complete mixtures on these soil types. In many cases the additional yield increases from the mixed fertilizers, as compared to yield increases from the nitrogen, are smaller and more variable and are often too small to justify the extra evpense involved in their application.

Louisiana Agricultural Experiment Station Fertilizer Recommendation for 1954

by

M. B. Sturgis and David Byrnside

On all plant cane, except where large crops of legumes have been turned under prior to planting cane, use at least 40 to 60 pounds of nitrogen. Where the green weight of legumes turned under ahead of planting cane is as much as 9 to 10 tons per acre, it is not necessary to fertilize the plant cane.

On stubble cane on the medium textured to heavy alluvial soils of the Mississippi or Red River bottoms, apply 80 to 100 pounds of nitrogen. Where known deficiencies

(Continued on next page)

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of phosphorus and potassium exist, which is usually in the very fine sandy loam and silt loam types, 25 to 40 pounds of P_2O_5 and 40 to 60 pounds of K_2O should be applied in addition to nitrogen. In some cases the plant food may be supplied by the application of 500 pounds of 6-8-12 per acre supplemented with 50 to 70 pounds of nitrogen from either solid or liquid materials.

On the medium to light textured soils of the Pleistocene Mississippi Terraces where stubble cane is being grown, apply 80 to 100 pounds of nitrogen, 25 to 40 pounds of P_2O_5 and 40 to 60 pounds K_2O.

Nitrogen may be supplied from any commonly available solid or liquid material. Where anhydrous ammonia is being used to supply nitrogen, minerals may be applied either before the ammonia or in the same operation from hoppers mounted on the sides of the tractor. The practice of splitting applications of nitrogen to stubble cane on medium textured

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soils where as much as 80 or more pounds of nitrogen is applied is proving to be profitable. Half of the nitrogen can be applied four inches deep in the middles at the last cultivation. Ammonia and other highly soluble carriers of nitrogen are especially adaptable for split applications.

———o———

UP FRONT

(Continued from Page 180)

and educational programs for agriculture.

We are sorry that our limited space in *The Sugar Bulletin* will not allow us to print Mr. Willis' very fine speech. It has been printed, however, in the Congressional Record of February 17th 1954, beginning on page A 1320.

Western Group Elects

Hugh A. Junca, President of the St. Mary Sugar Cooperative, Inc. of Franklin, La. was elected President of the Louisiana Sugar Producers' Club (Western Division) to succeed Stephen C. Munson, when that organization met in Jeanerette on March 5th. P. L. Billeaud, of Broussard, was elected Vice-President, and Gilbert J. Durbin, General Manager of the American Sugar Cane League, was elected Secretary-Treasurer of the Club.

———o———

Less than half the sugar consumed in the United States goes directly into the kitchen. Nearly 60 per cent is sold to food manufacturers.

* * *

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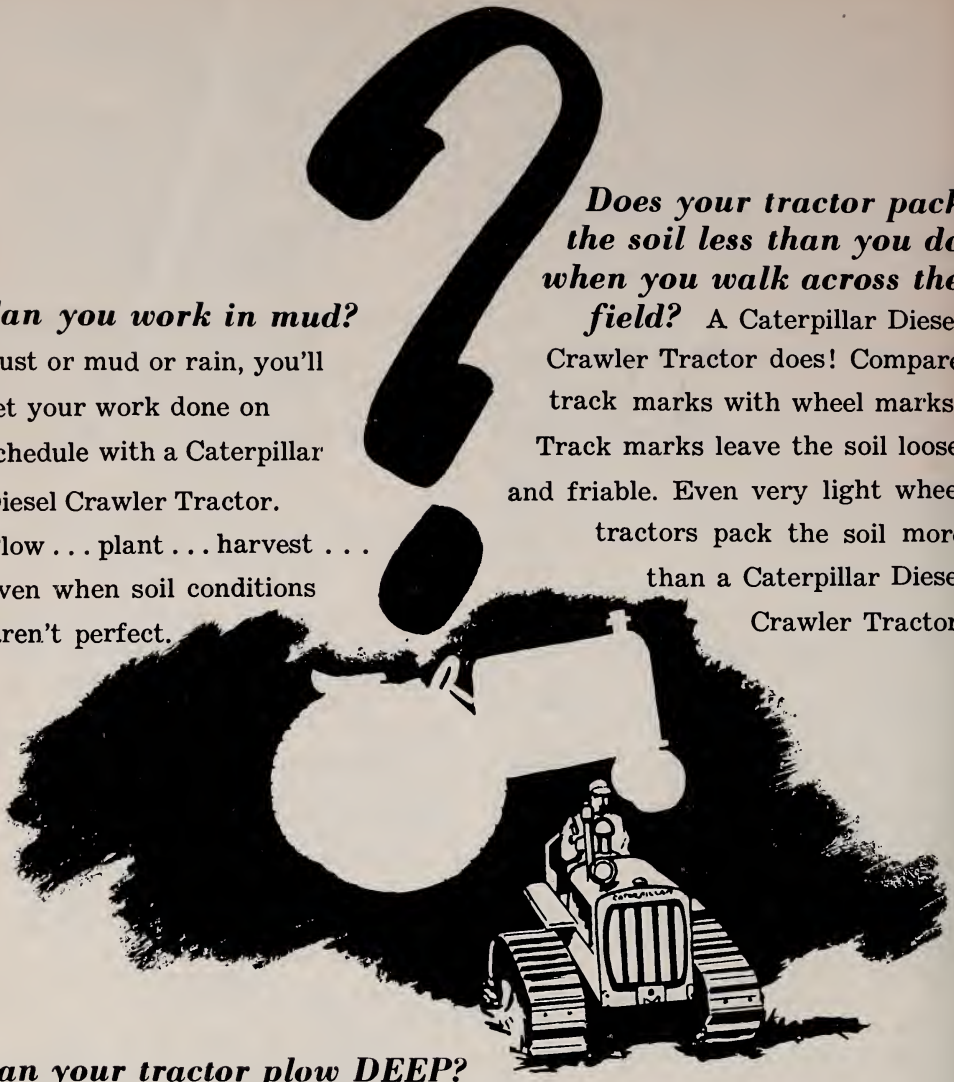

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THE SUGAR BULLETIN

. 32—No. 13 APRIL 1, 1954

cial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year
Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Bills and Committee Members

The campaign of the Louisiana and Florida sugar industries for an increase of 100,000 tons in the sugar quota for the Mainland Cane Area is in full swing with the bills providing for this increase about to be considered by the Senate Finance Committee and the House Committee on Agriculture.

The bill before the Senate Finance Committee was introduced by Senator Allen J. Ellender for himself and Senator Long and for Senators Holland and Smathers of Florida. It is known as S. 3019. We list below the names of the senators who are members of the Senate Finance Committee:

Eugene D. Millikin, of Colorado, Chairman; Hugh Butler, of Nebraska; Edward Martin, of Pennsylvania; John J. Williams, of Delaware; Ralph E. Flanders, of Vermont; George W. Malone, of Nevada; Frank Carlson, of Kansas; Wallace F. Bennett, of Utah;

Walter F. George, of Georgia; Henry Flood Byrd, of Virginia; Edwin C. Johnson, of Colorado; Clyde R. Hoey, of North Carolina; Robert S. Kerr, of Oklahoma; J. Allen Frear, Jr., of Delaware; Russell B. Long, of Louisiana.

Identical bills have been introduced in the House by Congressmen Willis and Boggs of Louisiana, and Congressman Rogers of Florida.

The bill by Congressman Boggs is known as H. R. 8072.

The bill by Congressman Willis is known as H. R. 8101.

The bill by Congressman Rogers is known as H. R. 8172.

All three of these bills have been referred to the House Committee on Agriculture which is composed of the following gentlemen:

Clifford R. Hope, of Kansas, Chairman; August H. Andresen, of Minnesota; William S. Hill, of Colorado; Charles B. Hoeven, of Iowa; Sid Simpson, of Illinois; Ernest K. Bramblett, of California; Paul B. Dague, of Pennsylvania; Ralph Harvey, of Indiana; Harold O. Lovre, of South Dakota; Page Belcher, of Oklahoma; Clifford G. McIntire, of Maine; James S. Golden, of Kentucky; William R. Williams, of New York; Karl C. King, of Pennsylvania; Robert D. Harrison, of Nebraska; William C. Wampler, of Virginia; Joseph R. Farrington, of Hawaii;

Harold D. Cooley, of North Carolina; W. R. Poage, of Texas; George M. Grant, of Alabama; E. C. Gathings, of Arkansas; John L. McMillan, of South Carolina; Thomas G. Abernethy, of Mississippi; Carl Albert, of Oklahoma; Watkins M. Abbitt, of Virginia; James G. Polk, of Ohio; Pat Sutton, of Tennessee; W. M. (Don) Wheeler, of Georgia; Clark W. Thompson, of Texas; Paul C. Jones, of Missouri; A. S. Herlong, Jr., of Florida; E. L. Bartlett, of Alaska; A. Fernos-Isern, of Puerto Rico.

Ryania

S. P. Penick & Co., the firm that supplies the borer killing powder known as *Ryania,* has asked us to tell the cane farmers of Louisiana that they expect to have over 2,000,000 pounds of finished 40% Ryania available for distribution through their local distributors by the first of May, and about 2,000,000 pounds more for second and third generation borer dusting.

In a letter dated March 10th, Mr. H. F. Seeland, Assistant Manager of S. P. P. & Co.'s Insecticide Division says that the one thing he would like to emphasize to the Louisiana farmers is that they place their Ryania orders promptly because even though —"we hope to have enough Ryania

(Continued on Page 205)

IN THE FIELD WITH LLOYD LAUDEN

"Mr. Better Sugarcane Farmer"

Who is Mr. Better Sugarcane Farmer? What yardstick is used to measure those factors that go together to make a farmer "better"?

Is the farmer who makes the most money per year, or the one who makes the greatest profit on the dollar invested the "Better Farmer"? Could this gentleman be that farmer who makes the greatest yield per acre or is there greater merit in an answer that combines yield per acre and low cost of production?

In order to be able to compare farmers who have different size farms, net profits per acre over a long period of time seems to be the measure which must be used.

The next question to arise is how does this "Mr. Better" get that way? The answer to this question is one that requires many assumptions and considerable time before arriving at a suitable answer.

In the production of any crop, nature's influence on that crop must never be overlooked. It also must be remembered that nature's part is not necessarily those forces which we encounter each year, but also developments which have been taking place for centuries. Certainly it is much more difficult to overcome the disadvantages nature provided when thick, heavy, sticky, clays were formed than when rich, mellow, light, better textured soils were formed. Nature has also provided us in Louisiana with a relatively short growing season but at the same time has endowed us with a great number of optimum hours for plant growth in that short period. Optimum growing temperature periods fluctuate from area to area to give one area an advantage, another a disadvantage. Other factors of nature, both mild and violent, have been known to occur in one small area within a distance of a mile. However, were it possible to completely harness all the forces of nature which act upon our crop, then the job of selecting the best farmer would become very simple.

Many sugarcane farmers in the Louisiana Sugar Cane Belt use different practices to overcome the differences nature has provided. Where differences of nature actually exist there is justification for the varied practices. However, it is very difficult to explain why neighboring farmers on the same soil type, using the same varieties of cane, and with other things being equal, vary so greatly with respect to cultural practices of sugarcane. It is logical to assume that yields will be affected in some way by the different treatment the two crops receive.

There are many general principles of agriculture that most farmers know and practice. There are many other specific practices that farmers are not quite certain of, but these practices are nevertheless used. It is granted that no two crop years are quite the same and, therefore, no two crops can be treated alike.

Mr. Better Sugar Cane Farmer is today making use of the results of the research carried on by the U. S.

(Continued on Page 205)

IN WASHINGTON WITH JOE FERRIS

International Sugar Agreement

A Sub-committee of the Senate Committee on Foreign Relations held a hearing March 18, 1954 on the International Sugar Agreement.

Witnesses appearing before the Committee were Thorsten V. Kalijarvi, Deputy Assistant Secretary for Economic Affairs, and Paul E. Callanan, Department of State; True D. Morse, Under-Secretary, and Lawrence Myers, Director, Sugar Division, Department of Agriculture, who presented the Government's case for ratification, and Gordon Pickett Peyton, representing an Industrial Sugar Users Group, and Harry R. Chapman, Vice President, National Confectioners' Association, who opposed ratification.

Statements were filed with the Committee by the following proponents of the Agreement: U. S.—Cuban Sugar Council, Association of Sugar Producers of Puerto Rico, American Beet Sugar Industry Policy Committee, Hawaiian Sugar Planters' Association, U. S. Cane Sugar Refiners Association, and the American Sugar Cane League.

Also filed with the Committee were communications opposing ratification from Donald Sanford, President, National Licorice Company, Congressman Richard Hoffman of Illinois, in behalf of various candy manufacturers in the Chicago area, and a statement from the Coca Cola Company.

Of special interest to Louisiana and Florida producers is an extract from the official transcript of the hearing which contains Larry Myers' answer to a question from Senator Aiken in regard to the proposed mainland quota increase:

"Senator Aiken. There has been some legislation introduced I believe in both houses of Congress providing for greater production of sugar in the United States through amendment of our Sugar Act, this increased production, I believe, to be given to the cane producing areas.

"Would approval of such legislation be inconsistent with the position which it is proposed that we assume under the new Sugar Agreement?

"Mr. Myers. Senator, the domestic Sugar Act is entirely separate, of course, from the International Sugar Agreement, and the United States importers are not even covered by the International Sugar Agreement.

"Now, it is quite true that as a general objective we did say to the other countries of the world the United States has undertaken to check its own domestic production with the idea of importing more sugar and thereby strengthening the world sugar market and the sugar economy as a whole. To that extent there might be some conflict of philosophy, you might say, if we were to adopt a policy of unlimited expansion in the domestic areas at the same time we are trying to help out the world market, but certainly there is no legal difficulty, and the most we might be accused of is pos-

(Continued on Page 207)

U. S. 1954 SUGAR QUOTAS INCREASED FROM 8,000,000 TO 8,200,000 TONS, RAW VALUE

(*Official Release*)

The U. S. Department of Agriculture today (March 16, 1954) announced an increase in the sugar quotas for the continental United States for 1954 to a total of 8,200,000 short tons, raw value. The quantity previously established on December 14, 1953, was 8,000,000 short tons, raw value. (The increases in quotas will be effective when Amendment 1 to Sugar Regulation 811 is published in the Federal Register.)

In addition to the 8,200,000 tons now available within 1954 quotas, it is estimated that 200,000 tons of sugar will be used in 1954 from inventories of sugar charged to 1953 quotas. Hence, the increased quota announced today should be sufficient to provide for domestic consumption of 8,400,000 tons estimated when the initial order was issued.

In announcing this increase in the quantity of sugar available within the 1954 quotas, Department officials pointed out that recent market developments make it advisable to discontinue the allowance for price made in the initial determination.

This action increases the quotas for Cuba and the full-duty countries by 192,000 tons and 8,000 tons, respectively. The new quotas are as follows:

Area or country	Short tons, raw value
Domestic beet sugar	1,800,000
Mainland cane sugar	500,000
Hawaii	1,052,000
Puerto Rico	1,080,000
Virgin Islands	12,000
Republic of the Philippines	974,000
Cuba	2,670,720
Dominican Republic	27,634
El Salvador	4,140
Haiti	2,674
Mexico	11,458
Nicaragua	7,832
Peru	51,978
Unspecified Countries	5,564
Total	8,200,000

Bases and Considerations. Sugar Requirements. On December 14, 1953, it was determined that total sugar quotas of 8,000,000 short tons, raw value, would be required in 1954. It was anticipated that the 1954 consumption of sugar would approximate 8,400,000 tons. The allowance of 400,000 tons was made because of stockpiling during late 1953 and to establish stable prices at levels required by the Sugar Act.

It now appears that stockpiling attributable to sales by beet processors charged to the 1953 quota but physically delivered in 1954, and heavy buying in the eastern area resulting from fears of a strike by longshoremen, approached a total of 200,000 short tons, raw value. This heavy distribution late in the year reduced refiners' year-end stocks of quota sugar but adjustments in refiners' year-end stocks are not a market factor at this time. The net effect of the December action was, therefore, to withhold 200,000 tons for the purpose of supporting the market during the period when it tends to develop a seasonal weakness.

Ordinary consumer demand is low in the winter and early spring onths and rises to a peak during the summer. To date in 1954 approximately 100,000 tons less sugar has been distributed than in the corresponding period of 1953. It appears probable, therefore, that consumers are reducing their inventories and that the coming seasonal increase in the use of sugar will be substantially reflected in concurrent distribution. In terms of supply the harvesting season in the Caribbean area, reaching its peak in March or early April, tends to result in a heavy selling pressure early in the year.

The supply and demand factors

(Continued on Page 204)

ADDRESS OF PRESIDENT CHAS. A. LEVY AT THE ANNUAL MEETING OF THE LOUISIANA SUGAR EXCHANGE

Today we complete another year and it is a pleasure for me to be able to report to you that the affairs of the Louisiana Sugar Exchange are in good shape as we wind up the busiest season that we have had since the War.

The Louisiana pricing period was lengthened this year by four weeks, extending through February 25th and this extension has meant extra work for the gentlemen who served on our Raw Sugar and Blackstrap Molasses Quotation Committees. I feel sure that the knowledge that the quotations issued by these committees were confirmed by the Sugar Branch almost immediately this year is a source of deep satisfaction to all of us.

I believe that it will probably be apropos at this time to briefly outline some of the difficulties that were experienced during the season just completed in arriving at our daily and weekly average prices.

The system that we are using in arriving at the daily New Orleans price of raw sugar apparently has worked very well. As you know, we use the New York quotation, less the freight differential, in fixing the New Orleans raw sugar quotation in the absence of spot sales of raw sugar to the local refiners. This year the freight differential averaged only 3.42 cents a hundred pounds which is the smallest freight differential that we have enjoyed during any season, except the 1949-50 season, when the differential was at the record low of only two and a half cents a hundred pounds. There are some who feel that there should be no difference in the New York and New Orleans quotations. This would, of course, be an ideal situation, but a check of the records will show that the Louisiana cane farmers and processors are infinitely better off under the system now in use than they were under the old system that relied solely on sales of Louisiana raws for quotation purposes. This is especially true, under the present practice of disposing of practically the entire Louisiana raw sugar production under average price contracts. The use of the New York price, less the freight differential, on days when no spot sales to the local refiners are recorded, has completely eliminated the possibility of distressed sales of Louisiana raws having a lasting effect on our market. This feature alone has saved the Louisiana cane farmers and processors a great deal of money each year. As previously stated, I feel, and I think that most of you will agree with me, that the method used by the Exchange in establishing quotations for Louisiana raws is a satisfactory one.

I am sorry to have to report however that our experiences during the past two seasons have shown that our rules governing daily quotations on Louisiana Blackstrap Molasses leave something to be desired. On a number of occasions during the past season, and also during the previous pricing period, it seemed very evident that the quotations issued by the Exchange did not truly reflect the value of Blackstrap Molasses. It has been suggested that one of the reasons for this difficulty lies in the fact that our rules make it mandatory for the Committee to carry the last previous daily quotation on days when no spot sales are recorded. This method keeps the Committee from adjusting the daily quotations in line with the actual daily market value of Blackstrap.

The office of the Exchange has recently prepared a new set of rules which will allow the Committee, by majority vote, to fix the price of Blackstrap on days when no spot

(Continued on Page 203)

THE SUGAR SITUATION

(Excerpts from "The Sugar Situation, February 1954" issued by the Agricultural Marketing Service of the United States Department of Agriculture)

United States Distribution and Consumption

Sugar distribution by primary distributors for domestic consumption in 1953 totaled 8,435 thousand tons, raw value, 4 per cent more than the 8,104 thousand tons distributed in 1952, and a new record.

Three increases of one hundred thousand tons each in April, July and October in the initial 1953 sugar quota brought the final quota to 8,100 thousand tons, 200 thousand tons more than the 1952 quota.

The actual quantity of sugar marketed was somewhat larger than the final quota of 8,100 thousand tons because both the domestic beet area and the Philippines were able to market a larger proportion of their quotas than had been anticipated when deficits for those areas were declared. In addition, because of the threat of a waterfront strike at the year's end, refiners were permitted in 1953 to refine non-quota sugar in bond thus releasing quota sugar usually held in inventory for marketing early in the new year.

The sugar quota for 1954 of 8,000 thousand tons, raw value, was announced by the Secretary on December 14. The announcement stated that this quantity is 400,000 tons less than would be needed at the rate of disappearance during the 1952-53 base period, adjusted for increasing population.

Prices

Domestic sugar prices at all levels of processing and distribution averaged higher in 1953 than in 1952, or for any other year since the war. At the end of the year, however, prices at retail were the same as at the beginning of the year while prices at other levels were only slightly higher.

The wholesale price of raw sugar, duty paid, New York, averaged 6.29 cents per pound in 1953, slightly higher than in 1952. This price rose during the year from an average of 6.04 cents in January to 6.41 cents in July, and stayed at about that level until November when it fell to 6.15 cents. The price in December averaged 6.05 cents.

The net wholesale price of refined sugar at New York (quoted price less 2 percent discount) followed the same general pattern as wholesale prices of raw sugar. The price in January averaged 8.41 cents per pound. Prices rose to 8.67 cents which prevailed from August through October. By December the price had receded to 8.48 cents.

Average retail prices of sugar in leading cities varied not more than one-tenth cents per pound during 1953. The average of 10.6 cents per pound for the year was three-tenths cents higher than in 1952.

Prices of raw sugar, f.a.s. Cuban ports, fell again during 1953. The average of 3.41 cents per pound was 18 percent below the 1952 average of 4.17 cents, and the lowest since the end of World War II.

The average price received by farmers for sugar beets in 1953 is estimated to be $12.00 per ton, the same as in 1952. Preliminary estimates indicate no change from 1952 in the average price of $6.96 per ton received by farmers for sugarcane.

Federal payments under the Sugar Act in 1953, excluding abandonment and deficiency payments approximated $2.45 per ton for sugar beets, compared with $2.41 in 1952; and $1.17 per ton for sugarcane, compared with $1.12 a year earlier.

Domestic Production

The 1953 U. S. sugar beet crop is estimated at 12,029 thousand

VISCON FABRIC AS A FILTER MEDIA

By C. W. Stewart

Presented at the Annual Meeting of the American Society of Sugar Cane Technologists, held in Houma, La., on February 15, 1954.

Purpose

To test the feasibility of using a fabric known as Rayon 85-D as a surface media for the filtration of sugar cane muds in plate and frame filter presses.

Equipment and Material Used in the Test

To carry out the test two plate and frame filter presses 24"x24"x 42 plates, side feed Shrivers were used. The mud pump is a 4½"x3" x4" Fairbanks Morse duplex pump. The delivery line is equipped with a relief valve set to release at 50-55 pounds. The cloths used are 25"x 55", 21 oz. twill. The Viscon fabric used is Rayon 85-D. Muds from the Dorr and Seip clarifiers were used in this experiment.

Procedure and Results

The filter presses were dressed with clean cloths as usual. On 21 plates (½ the press) beginning at the charge end, a sheet of Rayon 85-D was placed over the cloth. This was done so that the comparison

(Continued on next page)

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tons, 18 percent above the 1952 crop and 20 percent above the 1952-51 average. Although yield per acre was a record 16.1 tons, most of the increase in production is due to increased acreage. A total of 746,800 acres were harvested this season compared with 665,400 acres in 1952. Sugar production from the 1953 crop should total about 1,787 thousand tons, raw value, 18 percent more than production from the 1952 crop.

Sugarcane production for sugar in 1953 is estimated at 7,472 thousand tons, 4 percent larger than last year and 28 percent above the 10-year average. The average yield of cane per acre was 23.1 tons, slightly higher than yields in 1952. Sugar production from cane ground from the 1953 crop is expected to total 635 thousand tons, raw value, about 5 percent more than for 1952.

Acreage allotments will be in effect on the 1954 mainland sugarcane crop in order to bring production of cane sugar in line with the 500 thousand ton mainland cane sugar marketing quota.

Allotments of sugar marketing quotas for the mainland cane sugar processors were in effect in 1953 and will be in effect again in 1954. Allotments will also be made for beet sugar processors for 1954.

Sugar produced from mainland sugar cane has been in excess of the 500 thousand ton quota for the past two years. Allotments were put into effect to prevent disorderly marketing and to afford all interested parties an equitable opportunity to market sugar or liquid sugar.

Industrial Molasses

Production of industrial molasses in 1953 is estimated at 149 million gallons, slightly more than in 1952. With imports in 1953 up about 100 million gallons, total supplies of 629 million gallons in 1953 were almost one-fifth larger than in 1952. Over half of the available molasses supplies in 1953 again went for livestock feeding. Alcohol plants used an estimated 213 million gallons of molasses in 1953, over 25 percent more than in 1952.

Supplies of industrial molasses in 1954 will not be as large as they were in 1953 now that the surpluses from the 1951-52 Cuban crop have been sold.

Molasses prices, while averaging lower in 1953 than in 1952, were above the very low levels of November and December 1952. At an average price of 12.13 cents per gallon, New York, tanks, molasses was a good buy for livestock feeding.

would be made with the same material and under the same conditions, that is alkalinity, temperature and pressure. The mud was well mixed, pH raised to 7.5-8.0 and temperature to about 190-200°F. The pump was started and regulated at 25-30 strokes per minute (a normal speed). The mud was received by the Rayon covered cloths first as they were in the charge end of the press. Filtrate flowed from these plates 10 or 12 minutes before any filtrate came from the other section of the press.

After a two hour period the pressure had developed to a point where the relief valve was releasing the pump discharge back into the mud tanks and the filtrate was a mere trickle. The pump was stopped and the press allowed to drip for a few minutes then opened. Samples of the filtrate had been taken on both ends of the press and samples of the cake was also taken. The condition of the cake in the frames was examined. That in the Rayon covered end of the press was solid and well packed with only a small cavity near the inlet port in the frame. It remained whole in the frame when separated from the Rayon surface. The surface left clean and not smeared with mud. At the other end of the press the cake was not so solid, it had a large thin cavity in the center of the cake leading from the port to a distance well past the center of the frame. This cavity was filled with a soft pasty mud, an area about 1/3 that of the plate.

This operation was repeated 4 times, dumping the cake each time and closing the press again. After the 4th filling the mud supply was exhausted and the cloths and Rayon were removed from the press. The unprotected cloths were badly smeared and the last cake on these were very soft.

The protected cloths were only stained and the Rayon was only slightly soiled. All cloths were washed, the Rayon rinsed in cold water and returned with the other cloths to the press. The press was then filled three more times.

The Rayon covered cloths continued to yield good cake and good flow rate. The unprotected cloths were choked up on the 3rd filling. The cloths and Rayon were removed from the press and the cloths laundered in the usual way. The Rayon sections were placed in the washing machine with warm water and a small amount of soda ash. They were then tumbled for 20 minutes, rinsed in clean water and placed on the drying racks to drain.

The second filter press was then dressed with half-Rayon covered cloths and half unprotected cloths as was done in the first case. The rayon covers (filtering media) were used in the presses for seven days, terminating the grinding season. They were washed after each 6 or 7 cycles and returned to service.

It should be pointed out that our operation is not continuous. Muds and juices are held over for periods of time to accommodate classes. Some deterioration occurs and for that reason the muds do not always filter so well. Also on some occasions we have no muds to filter.

Observations

1. Increased filtration rate.
2. Formed better cake.
3. Protected filter cloths.
4. Can be used with broken cloths.
5. No improvement in clarity of filtrate (by Luximeter test).
6. Material is washable.
7. Separates easily from cake but can be torn if given rough usage.
8. Does not shrink.

The cost of Viscon non-woven fabric (Rayon 85-D) is 13c per sq. yard, in rolls 36" wide and 1000 yards long; or a section 25"x55" is 14c; whereas, a filter cloth the same size of 21 oz. twill is $3.85.

It is made in rolls 36" or 50" wide and produced by The Visking Corp., 1301 E. Eighth St., North Little Rock, Ark.

We have planned to conduct further tests on this material during the next milling season.

ADDRESS

(Continued from Page 199)

sales are recorded. These revised rules have been mailed to the members of the Exchange for study. If the new rules are adopted, I suggest that a new Blackstrap Molasses Quotation Committee composed of three producers, three dealers, and one broker be selected by the Board of Directors of the Exchange to administer the new rules. This, of course, is in no way meant to convey the idea that the gentlemen who have served so faithfully on the Molasses Quotation Committee during the past two seasons have not done a good job. The change in the personnel of the Committee would be to bring about the best possible representation of interest on the Committee in order to assure a quotation that will accurately reflect the daily value of Blackstrap when no actual sales are recorded.

The New York Coffee and Sugar Exchange has used a system of this nature for years in arriving at daily quotations for raw sugar and I feel sure that we in Louisiana can work out a similar method for Blackstrap Molasses quotations. Your comments on the proposed rule changes will be greatly appreciated.

During the 1953-54 Louisiana grinding campaign the Louisiana sugar mills handled 5,759,303 net tons of cane. This, according to the Government, was the largest crop ever produced in the State.

The total sugar production, raw value, amounted to 480,633 tons.

For three of the past four seasons the combined sugar production of Louisiana and Florida, known as the Mainland Cane Area, has been well over the 500,000 ton quota allotted to the Mainland Cane Area and the Louisiana and Florida industries have asked Congress to pass legislation this year that will increase the Mainland Cane Area quota to 600,000 tons. As President of the Louisiana Sugar Exchange I have urged the adoption of this legislation by the Congress and have also asked the U. S. Cane Sugar Refiners Association, of which I am a member, to support the sugar producers of Louisiana and Florida in their request for an increase of 100,000 tons in their quota. As a matter of policy, the Louisiana Sugar Exchange has left the matter of legislation in the very capable hands of The American Sugar Cane League but we are, of course, ready and willing to be of help if the League feels that we may be of service.

The operating expenses of the Exchange for the year totaled $12,843.01. During the year we collected $12,140.68 in dues. These figures show that we spent $702.42 more than we collected during the year.

We were able to do this because at this time last year we had a carry over of slightly more than $1,400.00 and part of this was used, in accordance with the policy of the Exchange, to reduce the amount of money it was necessary to collect from the mills other than the 4—S's, to operate the Exchange. These mills were asked to pay only $3,147.18 during the fiscal year ending today. Three of the mills—the usual three—who seem to feel that they are privileged to let the rest of the industry carry the load for them, failed to pay their dues, but everybody else paid up promptly. During the year starting at the close of this meeting we will, of necessity, have to assess the mills in line with the actual cost of operating the Exchange.

During the coming year we expect to collect $2,700 from the refiners, including the 4—S's; $3,500 from the molasses dealers, the brokers and other full members; and $2,500 from the commercial firms who are helping our industry through their commercial memberships in the Exchange. The balance of the budget will be prorated, according to the policy of the Exchange, among the

mills, basing each mill's share on the percentage of the crop handled.

Before closing I want to thank each and every member of the Exchange for the very fine cooperation that I have enjoyed while serving as your President. I want to especially thank our Raw Sugar Quotation Committee members, headed by Mr. John Levert, and the members of our Blackstrap Molasses Quotation Committee, of which Mr. Sidney Menard is Chairman, for their work throughout the twenty weeks of the 1953-54 pricing period, and I also want to express my appreciation to the employees of the Exchange for the fine job that they have done and are doing in operating the Exchange. It has been an honor and a privilege to work with all of you.

Thank you again for your cooperation.

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QUOTAS

(Continued from Page 198)

prevailing during this time of the year frequently result in seasonal weakness in price. Although prices declined in late 1953, recently both spot prices for raw sugar and prices for refined sugar have increased and futures prices for raw sugar for the more distant months show premiums over those for nearby months. These market developments indicate that in establishing the total of the quotas an allowance is not now needed to assure a level of price consistent with the objectives of the Sugar Act. Accordingly, the total of the sugar quotas (sugar requirements) for 1954 is established at 8,200,000 short tons, raw value.

Quotas. To give effect to the increase in sugar requirements the quotas for Cuba and foreign countries other than Cuba and the Republic of the Philippines have been increased by the amendments made herein to sections 811.62, 811.64 (b) and 811.65 (b). In paragraph 811.65 (b) the designation "China and Hong Kong" has been changed to "Hong Kong" inasmuch as Hong Kong was the source of all entries upon which the quantity set opposite this designation is based. In

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the same paragraph the quantity for Mexico has been changed to correct the computation of this quantity from entries for direct consumption in the years 1948, 1949 and 1950.

———o———

IN THE FIELD

(Continued from Page 196)

D. A. Sugar Station and the Louisiana State Agricultural Experiment Station to increase yields. These farmers usually take the advice of the scientist working on cane varieties, insects, weed control, diseases, machinery, economic studies and fertilizers.

It is the writer's opinion that research on cultural practices have been somewhat subordinated in the recent past. It is also the writer's opinion that Mr. Better Farmer could become even better if research told what specific practices were injurious. Many questions on cultivation are left unanswered. Examples of this are; how close to off-barr? When to off-barr? How early in the spring to fertilize? How long should cane remain on the off-barr? Should cane ever be allowed to remain exposed for any length of time off-barred? Does late in the season cultivation injure cane? Does deep cultivation late in the season injure cane? Is a stubble digger a good tool? There are many more questions. Ask these questions to five farmers and you will probably receive five different answers. As an example of two different opinions, some farmers fertilized their cane this year before March 15th, while others did not begin to fertilize until sometime later under the theory that the cane was not growing and did not need fertilizer until growth began.

The article, "Results of Tests Conducted over a number of years to determine the Effect of Shaving Sugarcane on Yields," by Mr. Leo Hebert and Mr. R. J. Matherne which appeared in the January 15th, 1953 issue of the *Sugar Bulletin*, convinced many farmers not to shave plant cane. Many other such studies on cultural practices are needed.

———o———

UP FRONT

(Continued from Page 195)

to go around, if all the growers wait until the last minute to try to obtain their requirements, they will overtax the mechanical and manufacturing facilities" of the local distributors.

The names of the local distributors of Ryania will be found in the S. P.

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Penick & Co. advertisement on the back cover of this issue.

Quotas Increased

On March 16th the Sugar Branch of the USDA added 200,000 tons to its original 1954 sugar consumption estimate increasing the overall sugar quota to 8,200,000 tons. We are printing the official Government release concerning this increase beginning on page 198 of this issue.

The New York price of raw sugar on the day of the increase was 6.25. Today (March 25th) the price is 6.10, a drop of 15 points. On March 25th one year ago the price of raw sugar in New York was 6.45.

There have been several different interpretations of the quota increase. We realize, of course, that Government men have to be very careful in any statements that they make, but it would be down right refreshing to be able now and then to read one of these explanations that left no room for argument as to its meaning.

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IN WASHINGTON

(Continued from Page 197)

sible inconsistency in trying to help out the world market on the one hand and expanding our own production greatly on the other.

"Senator Aiken. If we had a great expansion in production in this country, that would necessitate drastic revision in the export quotas?

"Mr. Myers. Well, no, it would not touch the export quotas under the Sugar Agreement, but inevitably it would affect the world sugar economy, because we would not be drawing off as much sugar from the world supply as we now do."

Members of the Sub-committee are Senator Aiken, Chairman, Capehart, Ferguson, George and Mansfield. However, with Senatorial tempers frayed by the recent Bricker amendment fight, the unexpected could happen.

The Sub-committee is expected to file a favorable report which will be adopted by the whole Foreign Relations Committee and brought to the Senate floor within the next ten days. No serious opposition on the floor to ratification is anticipated.

Editor's note: Since Mr. Ferris wrote the above report the Sub-committee has reported unanimously in favor of the bill.

———o———

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THE SUGAR BULLETIN

Vol. 32—No. 14 APRIL 15, 1954

Official Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

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Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Right To Work

A "Right-To-Work" bill and certain other bills dealing with labor will be introduced in the State Legislature next month. The American Sugar Cane League has assisted in drafting these bills and will work for their passage. They are not "anti-labor" bills. The guiding principle followed in preparing these bills was fairness to the individual worker, the employer and the public. Every sugarcane grower and processor should let his State legislators have his views on this legislation. We plan to publish more details about the legislation in the next issue of the Bulletin.

The following states have already enacted "Right-To-Work" laws:

Alabama, Arizona, Arkansas, Florida, Georgia, Mississippi, Iowa, Nebraska, North Carolina, North Dakota, Nevada, South Carolina, South Dakota, Tennessee, Texas, Virginia.

Endorse Increase Quota

The Louisiana Farm Council has unanimously endorsed the efforts of the Louisiana and Florida sugar cane farmers in their fight to obtain an increase this year of 100,000 tons in the sugar quota for the Domestic Cane Area.

On March 24th Dean J. G. Lee, Jr., Secretary of the Council, sent the following letter to Congressman F. Edward Hebert and similar letters to Congressmen Morrison, Long, Passman, Thompson, Brooks, and Boggs which is self-explanatory.

Dear Congressmen Hebert:

The Louisiana Farm Council met here at the University on March 12 and they unanimously endorsed the Bill which has been introduced in Congress by Congressman Edwin E. Willis of the Third District, and the Bill which has been introduced in the Senate by Senators Ellender and Long, to increase the sugar quota from 500,000 to 600,000 tons.

The Council, which is composed of the Presidents of all agricultural commodity organizations in the State, are respectfully asking that you support this Bill because it means much to our sugar people in South and Southwest Louisiana.

With very best wishes and kind personal regards, I am

Sincerely yours,

(Signed) J. G. Lee, Jr. Secretary
Louisiana Farm Council

Industrial Committee Meets

At a meeting the League's Industrial Committee on April 6, the Committee heard reports on studies which have been made on the quality of Louisiana raw sugar. Mr. A. J. Isacks, a member of the Committee, and Dr. R. T. Balch, of the Southern Regional Research Laboratory, made the reports. Both reported that there were differences in the quality of Louisiana raw sugar from year to year. Apparently these differences are primarily due to factors beyond the control of the Louisiana raw sugar producer. Weather is one of the main factors.

The studies which have been made also reveal that in any one year there are differences in the quality of raw sugar produced by various factories in the State. These are the differences which the industry may do something about.

The Committee decided that studies should be continued in order to determine just what factors play a part in making the raw sugar produced by one factory differ from the raw sugar produced by another.

Plans call for selecting two sample groups of factories. One group would be those factories which consistently produce a quality of raw sugar which is above average

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IN THE FIELD WITH LLOYD LAUDEN

Research on the Mechanical Harvester, Mechanical Planter and Mechanical Cane Top Shredder

The Farm Machinery Advisory Committee of the American Sugar Cane League met February 16, in Houma, Louisiana to discuss the work done by Mr. R. M. Ramp, of the Houma Sugar Station on the Experimental Harvester-Cleaner-Loader combination in 1953 and to discuss plans for the work during the coming year.

Mr. Ramp showed movies of both the 1952 and the 1953 harvester in action and commented about the developments that had taken place during the last harvesting season. Mr. Ramp told the committee that a change in the design of the 1953 harvester had been responsible for the heavy ground losses in the early part of the season, but that smaller ground losses were experienced once the specific trouble was fixed. According to Mr. Ramp, high borer infestations also contributed to heavy ground losses in 1953.

The movie showed complete operation of the harvester including the connecting and disconnecting of the wagons that the harvester pulls and loads. The four wheel wagons used in 1953 were larger than the conventional cane wagons and have a capacity of about five tons. Mr. Ramp thanked the League for purchasing two of these special wagons for his research project. The Committee expressed to Mr. Ramp their knowledge that the job given him was a large one, and encouraged him to continue his work on the harvester in 1954.

The Committee then discussed the possibility of starting some work on a mechanical planter. Mr. Ramp discussed mechanical planters used in other sugar producing countries; then told of the mechanical planter which he had worked on. It was the general feeling of the group that any planter developed for use in Louisiana must be one that would save labor and still do a very good job of planting. The Committee asked Mr. Ramp to gather information on a cane planting device and submit to the Committee what could be done with a certain amount of money. The Committee also asked Mr. Ramp to work with the South Coast Corporation on a mechanical cane planter which they plan to devise.

The cane top shredder or top grinder was discussed at this meeting. Mr. Ralph Mathes, Entomologist of the Houma Station, and Mr. A. L. Dugas, Entomologist, Louisiana State Agricultural Experiment Station told the Committee that many borers over-wintered in the tops of cane and a top shredding or top grinding device would certainly help to control the borer problem.

During the 1953 season both the Thompson Machinery Company and the Houma Station worked on a shredding device. The Committee asked Mr. Ramp to continue his work on this device in 1954, and to place this attachment on the harvester.

The industry was very pleased to have Dr. Eugene G. McKibben,

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PROPOSED ALLOTMENTS OF THE 1954 SUGAR QUOTA FOR THE DOMESTIC BEET SUGAR AREA

A proposed order allotting the 1954 sugar quota for the domestic beet sugar area was announced on April 5th by the U. S. Department of Agriculture.

The proposed allotment order is based on the record of a hearing held in Chicago, Ill., January 18-20, 1954. In the proposed order, allotments are established by measuring and weighing the three factors specified for consideration in section 205 (a) of the Sugar Act of 1948 as follows: Processings from proportionate shares as measured by the larger for each processor of production of beet sugar from 1953-crop beets, or the average production of sugar from 1950, 1951 and 1952-crop beets, 20 percent weight; past marketings as measured by each processor's annual average marketings of sugar 1949-1953, 50 percent weight; ability to market as measured by the total for each processor of January 1, 1954 effective inventory and the largest marketings of new-crop sugar in any of the years 1949-52, 30 percent weight.

The proposed order would limit marketings of beet sugar to 90 percent of the 1954 quota allotments until final data with respect to 1953-crop production, 1953 marketings, and January 1, 1954 effective inventories are available and an amended order based on such data is issued.

Interested persons may file written exceptions to the proposed order with the Hearing Clerk, U. S. Department of Agriculture, Washington 25, D.C. within 10 days after publication of the proposed order in the Federal Register.

Allotments under the proposed order are as follows:

	Allotments		
	Total		90 Percent
	Short tons, raw value	(100-pound bags, beet sugar)	
	(1)	(2)	(3)
Amalgamated Sugar Co., The	227,142	4,245,645	3,821,081
American Crystal Sugar Company	241,884	4,521,196	4,069,076
Buckeye Sugar Company, The	6,498	121,458	109,312
Franklin County Sugar Company	10,026	187,402	168,662
Garden City Company, The	5,616	104,972	94,475
Great Lakes Sugar Company	24,444	456,897	411,207
Great Western Sugar Company	450,072	8,412,561	7,571,305
Gunnison Sugar, Inc.	12,024	224,748	202,273
Holly Sugar Corporation	276,840	5,174,579	4,657,121
Lake Shore Sugar Company	8,676	162,168	145,951
Layton Sugar Company	5,850	109,346	98,411
Menominee Sugar Company	5,598	104,635	94,172
Michigan Sugar Company	65,736	1,228,710	1,105,839
Monitor Sugar Division of Robert Gage Coal Company	20,574	384,561	346,105
National Sugar Mfg. Co., The	7,380	137,944	124,150
Spreckles Sugar Company	193,878	3,623,888	3,261,499
Superior Sugar Refining Company	7,578	141,645	127,481
Union Sugar Div. of Consolidated Grocers Corp.	71,892	1,343,776	1,209,398
Utah-Idaho Sugar Company	158,292	2,958,729	2,662,856
All other persons	000	000	000
Total	1,800,000	33,644,860	30,280,374

NATURAL GAS

Statement by Charles O. Naquin, Chairman of the Natural Gas Committee of the American Sugar Cane League, before a Meeting of Natural Gas Users, Distributors, Producers and Public Officials in Thibodaux, April 8, 1954

For the record I wish to point out that the American Sugar Cane League is composed of more than 7,000 sugar cane growers and the raw sugar manufacturers in the State of Louisiana.

The purpose of the organization is to promote and to develop the sugar cane industry of our state and to carry out this objective, it must necessarily concern itself with the problems encountered by all segments of the industry.

Several months ago, the League was appraised of the serious situation which was developing in the natural gas business in this state and a committee was named to investigate the condition in so far as the sugar industry of Louisiana was affected.

Upon investigation, it was disclosed that about a year ago, several raw sugar manufacturers, who are supplied with natural gas by an independent intra-state gas company, were advised that at the expiration of their present contracts, they faced the reality of having to pay at least double the amount they were now paying for natural gas. This meant an increase of about $300,000 per year in the operating cost of the sugar factories which are supplied by this company and with sugar selling at about the same price as before the war, this increased cost will tax the ability of some factories to continue to use the most abundant natural resource of this state.

It was pointed out that the bidding for the gas reserves by interstate pipe line companies, primarily for exportation to distant markets was naturally compelling the independent gas companies to pay more for their supplies.

The sugar factory operators became reconciled to the fact that if the well head price for gas was going up, they would have to pay more or discontinue using natural gas for fuel.

The sugar factories are now being told that due to their seasonal operation, it is almost impossible for their supplier to contract for gas reserves because the producers would much rather sell to interstate lines who can guarantee them a year round market.

This being the case, independent gas companies which are now serving a large number of our factories are being forced into a position of having to buy a substantial supply of gas from the interstate lines . . . not at well head prices . . . but at prices demanded by the interstate lines, and they therefore actually become customers of the interstate lines.

It is possible that in the not too distant future the entire gas reserves in the State of Louisiana will belong to the interstate pipe line companies and the people of Louisiana and our local industries could find themselves having to pay the same price for natural gas as is being paid for it by out of state industries, although this natural resource is being produced in our back yards.

It is equally within the realm of possibility that by the mere turning of a few valves by the interstate pipe line companies, the people of Louisiana could be completely deprived of this natural resource.

Naturally any increase in the cost by the "middle-man" which in this case is the interstate pipe lines will be passed on down to the customers of the independent gas companies and our local citizens and industries will again be made to pay higher

A STATEMENT CONCERNING THE AVAILABILITY OF TRICHOGRAMMA PARASITES IN 1954

By A. L. Dugas, Entomologist of the Louisiana State Experiment Station

The Trichogramma laboratory is being expanded to accommodate a production fifteen times as great as that in 1953. Our aim is to produce a minimum of 400 million parasites for release during the months of June and July. Last year 60 million were reared for release over a much longer period of time. Extensive construction is underway at the present and every effort is being made to meet the goal that has been set.

We are aware of the fact that 400 million Trichogramma are only enough to take care of 80,000 acres of cane, which is about one-fourth of the total acreage. We are therefore asking all growers to use discretion and to be reasonable in the amount which they order. Releases should be figured at the rate of about 5,000 per acre to be treated. If the total amount ordered is more than the expanded facilities can take care of, there will have to be some fair proration made. If this is necessary the amount in excess of the quotas will have to be furnished after the regular release period in June and July.

It is necessary to set a date limit for receiving orders from the parishes so as to complete plans for production and distribution in due time. That date will be May 1, and all orders received by the laboratory up to then will be given the same priority. It is planned that these orders be sent out in either 3 or 4 different shipments in June and July. Orders received after May 1 will be filled if and when parasites are available, according to date received.

All orders must be made on the special order blank and accompanied by a check made payable to the Louisiana Agricultural Experiment Station. The charge will be fifty ($50.00) dollars per million or five (.05c) cents per thousand. Any order submitted on anything other than the regular order blank with an attached check will be returned. This is necessary because of the limited assistance available for handling the office work.

The following procedure will be followed in order to facilitate matters:

1. The County Agents office will furnish order blanks to the growers.

2. The grower or agent must complete the blanks in *duplicate* and send them to the Trichogramma Laboratory, Agricultural Center, L. S. U., Baton Rouge, Louisiana, with an attached check.

3. If a check covers application for more than one grower, it is still necessary that blanks be made out for each of the growers.

4. Parasites will be delivered to the county agents office in 3 or 4 shipments. Upon receipt of the parasites the agent will notify the grower.

5. A set of instructions for handling and releasing the parasites will accompany each order.

6. Additional information will be released whenever necessary.

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and higher for natural gas which is so plentiful in our state but which is becoming increasingly difficult for some of our industries to secure.

The natural gas committee of the American Sugar Cane League views this development with alarm and will draft and submit to the League, a resolution expressing its opinion on this subject, and will ask that the League use its influence in the passage of legislation which will provide a remedy for this problem.

BORERS SURVIVING THE WINTER AND PROSPECTS FOR THE 1954 INFESTATION IN LOUISIANA

By Ralph Mathes, W. E. Haley, and L. J. Charpentier, Entomology Research Branch, Agricultural Research Service, U. S. Department of Agriculture

Surveys to determine the number of overwintering sugarcane borers in Louisiana are made each year during the latter part of February and the first part of March to obtain an estimate of the probable infestation and control needed during the coming spring and summer. The 1954 survey, completed on March 8, showed the population to be sufficiently heavy and widespread to produce a destructive infestation.

Examinations were made in the cane trash of harvested fields on five plantations. Five random samples of 10 feet of row each were examined in six representative fields on each plantation. Results showed an average of 483 live borers per acre at Billeaud Plantation, 411 at Reserve, 387 at Raceland, 242 at Southdown, and 193 at Erath. The combined average in 1954 was 343 as compared with 891 in 1953. This is 23 percent more than the average of 278 for the period 1939-54. In only four of the other years were there more borers. This year's winter carryover of borers is practically the same as that of 1952, which developed into one of the highest harvesttime infestations on record. In cane trash an infestation of 0 to 5 borers is considered noneconomic, 5 to 25 light, 25 to 100 moderate, 100 to 200 severe, and 200 or more very severe.

Although most of the examinations were made in the cane trash of fields harvested last fall, some were made in the young shoots from summer-planted cane. Eight fields of such cane were surveyed in the Houma area. Five random samples of 10 feet of row each were examined in each field. The average number of borers per acre was 1,794, as compared with 1,788 in 1953 and 1,390 for the 10-year period 1944-53.

Table 1 gives the number of borers surviving the winter, together with data on winter temperatures and the infestation the following harvest. These data show that temperatures have a marked effect on the number of borers able to survive the winter. Very low temperatures seem to be more important

Table 1. Winter temperatures, borers surviving the winter, and infestation the following harvest, Houma, La.

Winter	Minimum temperature (° F.)	Days with freezing temperatures	Number of borers overwintering per acre		Percent of joints bored the following harvest
			In summer-planted cane	In harvested fields	
1938-39	24	17	—	67	20
1939-40	17	27	—	8	5
1942-43	25	10	—	264	19
1943-44	23	20	614	87	14
1944-45	25	10	1,053	254	16
1945-46	23	15	567	99	10
1947-48	18	20	124	22	9
1948-49	25	7	2,596	441	22
1949-50	30	3	3,325	686	13
1950-51	14	18	76	4	7
1951-52	25	11	1,964	346	28
1952-53	24	12	1,788	891	28
1953-54	25	11	1,794	343	—
Average	23	14	1,390	278	16

WILLIS SPEAKS FOR MAINLAND CANE QUOTA INCREASE

Speech made by Congressman E. E. Willis, Third District, Louisiana, in the House of Representatives, on March 29, 1954, which appeared in the Congressional Record on Page 3789 of the same date.

Mr. Speaker, the International Longshoremen's Association strike proves two things. The first is that we should be permitted to produce more sugar in continental United States. And the second is that the bills recently introduced by Members of the Louisiana and Florida delegations both in this body and in the Senate, increasing the quota of the Mainland cane sugar area from 500,000 to 600,000 tons should be considered immediately by the House Committee on Agriculture and adopted into law without delay.

I hold in my hand this morning's issue of the Wall Street Journal. It carries a news article entitled "Striking Longshoremen Move To Halt Diversion of Cargo From New York—East Coast Tie-Up Possible." The article states:

> "As New York City's waterfront tie-up dragged into its fourth week, the striking International Longshoremen's Association was stepping up efforts to halt diversion of cargoes to other ports."

As a protective measure, cargo originally destined for New York has been diverted to other ports, principally Baltimore and Philadelphia. In order to illustrate the importance of this shift of incoming cargo from one port to another, the article points out:

> "During the past three weeks, cargo coming into Baltimore has jumped 600 percent, while outgoing shipments have increased 400 percent."

As a countermove, the news article then states:

"Officials of all ILA Atlantic and Gulf coast ports will meet in Philadelphia today at a special conference where they may be asked to shut down their ports completely in support of the New York strike. Baltimore dockworkers, after reversing themselves three times over the week-end, decided yesterday to

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than the number of days having freezing temperatures. Survival was generally much lower at 18° F. and below than at 23° and above.

The following factors contributed to the high winter carryover in 1953-54: (1) Heavy infestation in the previous crop, (2) large numbers of millable stalks and pieces left in the field during the latter part of the harvest season, and (3) a relatively mild winter. Fortunately very little cane was topped low to raise the sucrose content in the 1953 crop harvest. This practice always leaves an enormous number of borers in the field.

On the basis of the number of borers overwintering, it is expected that the infestation of first-generation borers will be considerably above average. The carryover is also believed to be scattered over more acreage than usual. Growers should be on the watch for developing infestations and be prepared to dust with ryania or cryolite where necessary.

The number of overwintering borers herein presented vary somewhat from that obtained by the Louisiana Agricultural Experiment Station,[1] owing to differences in infestation in the fields and areas surveyed. However, both sets of figures show a heavy carryover of borers and indicate the need for treatment with insecticides.

[1] Louisiana Farm Bureau News, March 1954.

EXCERPT FROM AGRICULTURE APPROPRIATION HEARINGS REGARDING QUOTA INCREASE

Senator Dworshak. * Mr. Secretary, recently, just last week, your Department set the marketing quota for sugar at 8,200,000 tons, is that correct?

Secretary Benson. I think that is right, yes, Senator.

Senator Dworshak. And it is proposed to increase the Cuban quota, import quota, by 192,000 tons and the balance to South American countries. In view of that, I wonder what your views are concerning the possibility of increasing the allotments for both cane sugar and beet sugar. For instance, in the West, as there is a diversion of acreage because of the wheat allotment in the irrigated areas, and because of depressing potato prices and the need of diversification, do you not think that it would be advisable to increase the quota on sugar beets from the existing level of 1,800,000 tons, say, to 2 million tons, and increase the quota on cane sugar? I think our colleague, Senator Ellender, has a bill in to increase the quota from 500,000 to 600,000 tons.

Senator Ellender. That is right.

Senator Dworshak. What is your general reaction to that proposal in view of the fact that we produce only a small percentage of the sugar in the country which we consume?

Secretary Benson. My sympathies, naturally, Senator Dworshak, are with our domestic producers. I met with the representative groups from Senator Ellender's state when I was down in New Orleans recently. I met some of the people from Florida this last week and had also met some of the beet growers.

Of course, it would require opening up the present Act as you know. The Senator has, I understand it, proposed an amendment.

Senator Dworshak. Could that be done this year or would we have to wait until 1953?

Senator Ellender. The Act is to be renewed next year.

Senator Dworshak. Could we anticipate some action instead of waiting until next session?

Secretary Benson. Well, I do not know. Possibly it could be done. Of course, if the Congress wished it to be done, it would be done.

Senator Dworshak. I am asking you because I want your views. You know the irrigated areas of the West. For example, in Minidoka County in southwestern Idaho, recently the Bureau of Reclamation opened up for settlement for GI's 72 farm areas. They moved out there this spring. They cannot get wheat allotments. The potato situation is bad. They appealed for sugar beet acreage but because of the limitations and restrictions of marketing placed on the beet sugar processors in that area, it is almost impossible to get any allotments to produce the sugar beets. What are we going to do with that situation? Why is that not a good place to take some of those diverted acres and put them into crops which would produce only a small percentage of the amount we consume?

Secretary Benson. We do have a little leeway, as I understand it, Senator. We have not been producing quite up to our quotas, domestically.

Senator Dworshak. We are on sugar.

Secretary Benson. We probably will and will probably go beyond it. Of course, we do have some obligations to these other suppliers, as you know. We will have to look at the whole picture. I would be inclined to go a long way in helping our domestic producers.

Senator Ellender. Is it not a fact, Mr. Secretary, that insofar as beet sugar production is concerned, as you say, you have some leeway and

you can permit these people to plant because they have not surpassed their quota yet? But the reason why . . .

Senator Dworshak. We have reached the quota.

Senator Ellender. But you have not clamped down, as to the acreage as yet. Am I right in that?

Secretary Benson. I think the control is through the processors, the volume which they can market under the quota.

Senator Ellender. I understand. But there has been no restriction on acreage planting up to now, has there?

Secretary Benson. I think not, except as the processor has influenced the acreage which his individual growers could plant.

Senator Ellender. The way the Louisiana and Florida sugar producers differ is that on the acreage that was allotted to them or that has been planted for the past four or five years, they are producing now more than their allotment, don't you see?

Secretary Benson. They have increased efficiency per acre.

Senator Ellender. It is not a question of increasing acreage in Louisiana and Florida as it is simply to permit us to plant the same acreage as we now have.

Secretary Benson. I have heard those arguments, Senator. That is true. You have a great increase in the efficiency of production.

Senator Ellender. That is correct. And it would be almost criminal to force the farmers of my state and of Florida to plow up 30 per cent of their cane acreage when their acreage has not been increased, but the increase in production has been due to the methods that they are now practicing. In many cases, the adoption of more efficient methods resulting in greater per acre production has emanated from the department.

Secretary Benson. Well, thank you. I do not know that we are entitled to all the credit. I think your State colleges and your factories have had a very important part.

Senator Ellender. You know I throw bouquets your way sometimes.

** Note: Senator Dworshak is from Idaho.*

———o———

WILLIS

(Continued from page 217)

handle no more ships diverted from New York."

Sugar is probably the first commodity to feel the impact of a strike. This is easy to understand because both the cane and beet areas combined produce less than 30 percent of the sugar consumed in continental United States.

In order to show that I am not exaggerating the situation in respect to sugar, I want to read from another news article in this morning's Journal of Commerce, entitled "Sales of Refined in New York Suspended." This particular news significantly points out the following:

"The demand became so great for refined sugar as new arrivals of raws were curbed by the dock strike that at least one refiner had run out of sugar on Friday and another was virtually out."

Large shipments of raw sugar come from Cuba and Puerto Rico and enter the New York and other eastern ports where the raws are refined for consumption by the industrial users, the bakeries, the housewives, and so forth. This article further states:

"Some deliveries have been made in the New York area from the Philadelphia refineries of the American and National. But American is out of sugar beyond the business booked and National is virtually out."

Already, Mr. Speaker, the law of supply and demand is coming into play pricewise, because this news item then points out:

"Against 8.65-cent contracts booked recently, the refiners were making deliveries to the extent of their ability and they sold some su-

gar at the higher prevailing base price of 8.80 cents, but there will be very little more sugar available for sale even at the higher price."

Now, Mr. Speaker, I am neither a prophet nor the son of a prophet. I cannot tell how long this strike will last, and I would venture to guess that no living person can either. I can and do most emphatically say, however, that if the strike continues for an unreasonable length of time and if it should spread to all coastal and gulf ports, as suggested in the first article from which I have quoted, and if shipments are thus shut out from Cuba, Puerto Rico, and elsewhere, our limited beet supplies will soon disappear and then no one will be able to obtain sugar anywhere in the United States at any price.

Perhaps the East Coast strike will be settled promptly and satisfactorily all the way around. I hope so, but then maybe it will not; and even if it is, who knows but that another one might develop in the Gulf Coast area or on the West Coast, to say nothing of possible strikes in Cuba and Puerto Rico. Therefore, we cannot get away from the desparate threat of strikes to our sugar supplies.

Mr. Speaker, this is truly an ironic situation. Under the Sugar Act of 1948, the quota of the Mainland Cane Sugar Area was established at 500,000 tons. The 1952 crop from that area was 605,000 tons and the 1953 crop was about 640,000 tons. The higher level of production was due to larger yields per acre made possible by the splendid research program participated in by the U. S. D. A. and without any acreage increase. In fact, the acreage has varied no more than 2 percent in the last five years, and we are producing 20,000 acres less now than in 1948. In the face of this, however, the 1954 proportionate-share determination required that the acreage in 1954 be about 8 percent less than in 1953.

If a quota increase is not granted this year, the U. S. D. A. will impose an additional acreage cut of much more drastic proportions. Thus, the quota under the Sugar Act is 500,000; in January of 1954 we had a carry-over of 190,000 tons, leaving a marketable balance in 1954 of 310,000 tons, with an expected production of about 630,000 tons. All of this, Mr. Speaker, simply means that unless we obtain immediate relief, the farmers in Louisiana and Florida are faced with a plow-up of thousands of acres of sugar cane lands.

And to add insult to injury, you must realize two things. In the first place, sugar production is so expensive that a new crop cannot profitably be planted every year. For example in Louisiana, cane planted in the fall of 1953 will be harvested as plant cane in 1954 and then will be re-cultivated and harvested as stubble cane in 1955 and again in 1956, and even beyond that in Florida. A plow-up, therefore, would not only reduce the acreage, but would result in the destruction of the farmers' capital investment. And in the second place, unlike other farmers, most sugarcane growers produce no other cash crop and do not have a satisfactory alternative cash crop which they can grow on the acreage taken out of cane.

Sugar consumption has increased about 20 percent since the enactment of the Sugar Act of 1943, due primarily to population increase. The Mainland Cane Area needs a 20 percent increase in the quota it received under the Sugar Act. It is obvious that the proposed additional 100,000 tons is less than the amount needed to satisfy increased consumption resulting from one year's population increase. The bills introduced would satisfy a modest requirement to meet existing conditions.

Mr. Speaker, sugar legislation has always been on a bi-partisan basis, and so it should remain. In fact, I think it is fair for me to say that

this administration is committed to fair treatment of our Louisiana sugar farmers. Following standard procedure, the bills introduced in the House and in the Senate have been referred to the Secretary of Agriculture for an expression of the views of the Department and of the administration. A strong, favorable, position by Secretary Benson would greatly assist and, I believe, would assure adoption of the identical bills which have been introduced. I think it is entirely proper for me to express not only the hope but the expectation that the Secretary of Agriculture will not only approve but will affirmatively advocate passage of this legislation whose importance is doubled in the light of the strike on the East Coast.

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IN THE FIELD

(Continued from page 212)

Chief, Agricultural Engineering Research Branch, Agri. Research Service, U. S. D. A., Washington and Mr. R. B. Gray also of the U. S. D. A., at the meeting to express the views of the Department on the continuation of the research work. Dr. McKibben told the Committee that his department welcomed suggestions and that they looked for guidance from this committee.

It is certainly good to know that our industry sits in conference with the scientists working for our benefit and assists them with the research that will mean progress for the future.

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UP FRONT

(Continued from page 211)

for the state. The second group would be those factories which consistently produce a quality of raw sugar below the average for the state.

The studies would attempt to determine relationships between quality of raw sugar and such factors as grain size, cane varieties, plant facilities, and operating procedures.

In the past the quality of Louisiana raw sugar has been better than most imported sugar. It is important to the Louisiana sugar industry as a whole that Louisiana maintains its reputation of producing good quality raw sugar. We believe that the mills which consistently produce high quality sugar will cooperate wholeheartedly in the studies in order that the industry, as a whole, may benefit from the findings. The future progress of the Louisiana sugar industry depends in large part upon such cooperation.

Any one mill or individual grower in the Louisiana sugar industry who might excell in one particular operation should always want to share

(Continued on next page)

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his knowledge with others in the industry, because it is usually the case that such a mill or individual can profit from the experience of some other mill or individual.

Flood Control

Sometime the latter part of this month there will be a congressional hearing of vital importance to the Louisiana sugar industry. The hearing will be before the Public Works Committee of the House of Representatives. The Corps of Engineers of the U. S. Army, the State Dept. of Public Works, the American Sugar Cane League, and numerous other industries in Louisiana will propose to the Committee that Congress authorize the construction of certain control structures on the Mississippi River and the Old River which will prevent the diversion of the Mississippi River into the Atchafalaya.

The Army Engineers have definitely stated that the Mississippi River will divert its course into the Atchafalaya unless something is done to prevent this from happening. The Engineers estimate that the diversion will take place about 1975 but could possibly happen as early as 1965.

If the Mississippi River does divert its course more than three-fourths of the Louisiana sugar industry will be destroyed. Part of all of 18 sugar parishes will be flooded. Forty of the 53 sugarcane mills will either be affected by the flood waters or their cane supplies will be flooded. Three of the refineries in the state will be in the potential flood area, one other will be almost completely encircled by flood water, and the remaining four

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would not be able to continue operations because of their dependence upon fresh water from that part of the Mississippi River which will contain salt water if the Mississippi River diverts its course. The new paper mill which will use sugarcane bagasse and which is located at Lockport will be in the potential flood area.

In all, the capital loss which will be suffered by the Louisiana sugar industry would approximate two hundred and fifty million dollars. This compares with an estimated cost of the control structures which would prevent the diversion of between forty-six and sixty million dollars. In addition to the annual losses, the Louisiana sugar industry would suffer annual losses due to the loss of products which could no longer be produced. These annual losses would be in excess of the cost of the control structures. About 25,000 workers in the Louisiana sugar industry would no longer have jobs in the industry.

The sugar industry is not the only agricultural group which would be affected. The flood waters would affect a part of the sweetpotato, cotton and rice areas. A substantial portion of the State's cattle, poultry, and truck crops are grown in the potential flood area.

The League's Flood Control Committee has started preparing a statement which will be submitted at the hearing by Mr. Elliott Jones, Chairman of our Committee. The above facts are some of the points which will be made in the League's statement.

400 Million Parasites

We notice that the Louisiana State Experiment Station is selling Trichogramma's at $50.00 a million and 5 cents a thousand.

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THE SUGAR BULLETIN

Vol. 32—No. 15 MAY 1, 1954

Official Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

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The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

The Right To Work

In the April 15th issue of The Sugar Bulletin we reported to you that the American Sugar Cane League is assisting in the preparation of certain labor legislation to be introduced during the coming session of the Louisiana State Legislature. These bills are of vital importance to all Louisiana sugarcane farmers and processors, and also to the good people who work for them. We urge you to contact your State Legislators and ask them to vote for the bills described below.

The Bills

One bill is a Right-To-Work law similar to those that have been enacted in sixteen other states. It merely provides that a person's right to work shall not be determined on the basis of that person's membership or non-membership in a labor union. This is not legislation against labor unions. It is simply legislation which will prohibit *compulsory unionism.* It will in no way prevent a worker from joining a labor union. It will, however, prevent him from being *forced to join a labor union.*

If this bill is enacted into law, each person will then be free to decide for himself whether he wishes to join a labor union or not join a labor union. This is in keeping with the time honored American tradition that maintains the dignity and the independence of the individual.

Another bill provides that a strike of agricultural employees during the harvest of an agricultural product, which would deteriorate unless harvested timely, is contrary to the public policy of the State. It certainly goes without saying that if unscrupulous labor leaders are permitted to force strikes during the harvest of a perishable agricultural commodity they will then have the power to completely destroy not only the income of the farmer but the income of farm worker as well. Possibly more important than the economic destruction of the farmer and his employee is the threat to the general welfare of the consuming public that exists when a few labor leaders have the power to completely destroy food and fiber crops.

A third bill provides that an unincorporated labor organization may sue or be sued. This will simply make a labor union responsible for its actions, which is right and proper.

One more bill of vital concern to all farmers is the one that clarifies the existing laws pertaining to the eviction of persons who occupy houses by virtue of the job they hold. This bill makes it clear that Louisiana law provides that an employer who allows an employee to live in a house because that employee is working for him may, without undue delay, evict the worker when he is no longer an employee.

Representatives of the Louisiana sugar industry have joined with representatives of other agricultural and industrial groups to form a Right-To-Work Council and this Council is working for the enactment of labor legislation. They need your backing and the way you can do the most good is by telling the men who represent you in the State Legislature to vote for this legislation.

Quota Legislation

For the third time this year the Chairman of your League's Legislative Committee and the General Manager of your League have gone to Washington to confer with the

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IN THE FIELD WITH LLOYD LAUDEN

Research by the League On Stunting Disease

The League's Committee on the control of Stunting disease met this month to discuss the work done last year on the disease and plan the experimental work to be done on this disease this year.

Last year 131 tons of seed cane were treated experimentally with Hot air at 9 places in the sugar belt in an attempt to rid this cane of a new disease which is believed to have caused and is causing deterioration or "running-o u t" of many commercial varieties of cane. This treatment is not one which is recommended for all cane planted but only a treatment for establishing a small amount of disease free cane which can be increased for later planting.

The cane treated last year did not germinate well, but this condition was expected since temperatures used were sufficiently high to cause injury to the eyes. This cane was also planted late and in very dry soil which was not conducive to producing good stands.

At one of the nine places where seed was treated only a 25% stand was received, another place received about a 40% stand, and at all other places stands ranged from 50 to 80%. It is hoped that this seed will be free of the disease for increase for later distribution to farmers.

Since the symptoms of this Stunting Disease are not so readily recognized, many farmers are n o t aware of its presence in their fields and, therefore, are not too concerned. However, the presence of this disease has been observed generally throughout the belt by the scientist working with sugar cane. According to Dr. E. V. Abbott of the Houma Sugar Station, symptoms of the disease as now recognized, such as stunting or retarded growth, reduction in number and diameter of the stalks in the stool, and discoloration of the internal stalk tissues at the base of the nodes, were observed in all of the commercial varieties in all parts of the sugarcane district of the State.

The March 1st issue of the Sugar Bulletin carried an article entitled "Progress Report on the Study of Stunting Disease" by Dr. E. V. Abbott which should certainly be studied by those who have not given this disease their concern.

The League's Committee on the Control of Stunting Disease is composed of members of the industry and scientists of both the U. S. D. A. Sugar Station and the Louisiana State Experiment Station. T h i s committee thought this disease of such great importance to the industry that they requested the League to continue the experimental work again this year.

Plans are now under way to modify the Heating Unit in order to maintain better distribution of heat with the expectation that better distribution of heat will minimize the damage to the seed treated. This should insure better germination and therefore make available a more rapid supply of disease free seed to be increased for later distribution.

IN WASHINGTON WITH JOE FERRIS

Florida Wage and Price Hearings

The U. S. Department of Agriculture has announced that wage and fair price hearings will be held on May 11, 1954 in Clewiston Florida.

Testimony will be taken on wage rates for the period July 1, 1954 through June 30, 1955 and on prices for the 1954 crop of sugarcane in Florida.

Similar hearings will be held in Louisiana probably in mid-July.

Climbing on the Bandwagon

When the Louisiana and Florida Congressional delegations introduced bills to provide a quota increase for the Mainland Cane Area they were "lone wolves" as far as their colleagues from other domestic sugar producing areas were concerned. The idea of opening the Sugar Act during this session of Congress was not considered feasible. That situation has rapidly changed, however, due in large measure to the convincing arguments advanced by Senators Ellender and Holland and Congressmen Boggs, Willis and Rogers.

Senator Dworshak and Congressman Budge of Idaho, have introduced bills in the House and Senate to increase the continental beet quota by 200,000 tons.

The latest "joiner" who climbed on the legislative bandwagon almost unnoticed and who, for the moment, is anonymous, is the author of that section of H. R. 5181, a Bill to revise the Organic Act of the Virgin Islands which would increase the sugar quota of that area from 12,000 to 20,000 tons. This left-handed attempt to amend the Sugar Act is attributed to certain top brass in the Interior Department. The bill has been approved by a Subcommittee of the House Committee on Interior and Insular Affairs. How the sugar provision will fare when the bill is reviewed by the full Committee remains to be seen.

It is interesting to note that the Chairman of the House Committee on Interior and Insular Affairs, Mr. Miller, is from Nebraska, a beet growing state.

Ellender Leads Senate Fight

During the debate on the Wool Bill in the Senate, Louisiana's Allen Ellender got in some good licks for a Mainland quota increase. Former Chairman of the powerful Senate Committee on Agriculture and now the ranking Democratic member of that Committee, Senator Ellender took a very prominent part in the discussion of the merits and demerits not only of the wool bill but also of flexible vs rigid price props. On several occasions Ellender called to the attention of his colleagues the excellent manner in which the Sugar Act functions both for sugar producers and consumers.

Despite the fact that bills have been introduced which would increase the continental beet quota by 200,000 tons, many of the Senators and Congressmen from beet states are opposed to any sugar legislation this year and are actively doing what they can to prevent it.

However, Senator Ellender thinks he may be able to overcome the objections of his beet colleagues but

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SENATOR ELLENDER SPEAKS FOR QUOTA INCREASE

The team of Ellender from Louisiana and Holland from Florida very ably presented the Mainland Cane Area's case for a quota increase on the floor of the Senate on April 5, 1954. Senator Ellender's speech and Senator Holland's comments are re-produced for your information.

Mr. Ellender. Mr. President, on February 25th of this year, I introduced on behalf of myself, the junior Senator from Louisiana (Mr. Long), the junior Senator from Florida (Mr. Smathers), and the senior Senator from Florida (Mr. Holland) a bill which would increase the domestic sugarcane quota by 100,000 tons, raising it from the present annual maximum of 500,000 tons to a more realistic figure of 600,000 tons.

This bill has been referred to the Senate Finance Committee; there it remains. A companion bill in the House is in the hands of the House Agriculture Committee, which has indicated a sympathetic attitude but, to date, has failed to transform attitude into action. In the meantime, our sugarcane industry faces the possibility of crippling "plow ups" amounting to almost one-third of its total acreage. I realize full well that the legislative wheels sometimes move slowly, indeed; but the fact of the matter is that the domestic sugarcane producers are faced with an emergency situation; and prompt, decisive action is required.

The present Sugar Act is designed to provide consumers with as favorable a price as possible, while allowing producers of cane and beet sugar a fair price for their products. To date it has worked well. The consumer's price of sugar has remained relatively stable, even while other commodities have been doubling or tripling in price. At the same time, domestic cane producers have increased their efficiency and have increased their per acre yields. Acting upon the excellent advice tendered them by the Department of Agriculture, they have adopted new, high-yielding varieties and they have also made use of mechanized harvesting methods. They have endeavored to make their operations more efficient and more economical. In so doing, however, their per acre production has increased from 18.4 tons of sugarcane per acre in 1935 to an estimated 23.1 tons per acre in 1953. A ton of sugarcane has come to yield an average of 170 pounds of raw value sugar, compared to 164 pounds in 1935. In order to keep their allowable production within the 500,000-ton ceiling imposed by the existing Sugar Act, Louisiana and Florida producers have already been forced to impose upon their fields an 8 percent acreage reduction; yet 1954's reduced acreage total is 27,000 acres below 1953, and 20,000 acres under 1948 levels. 1948, incidentally, is the year the present Act was adopted.

As Senators know, the Sugar Act is based on a fairly simple principle. In December of each year, the Secretary of Agriculture announces an estimate of the consumption of raw sugar in this country. This estimate is based on, among other things, information obtained through hearings held usually in November. After the estimated consumption is announced, it is prorated among our several sources of sugar—including the United States cane and beet sugar areas, Hawaii, Puerto Rico, the Virgin Islands, Cuba, and others.

Under the Sugar Act of 1937, which preceded the present authority, these prorata shares were determined on a percentage basis. The 1948 Sugar Act, as amended, which is the Act presently in force, prorates this total consumption among sources on the basis of fixed shares. Each domestic sugar producing area and the Philippine Islands is allotted a quota ceiling of raw sugar. The remainder is distributed among Cuba and other

Roland Toups (left) congratulates E. C. Simon on his election to the Presidency of the American Society of Sugar Cane Technologists.

foreign countries. Since passage of the 1948 Sugar Act, which adopted this system of quantity quotas, only those fixed-share quotas assigned to Puerto Rico and the Virgin Islands have been increased. No other domestic sugar-producing areas have received a quota increase despite the fact that the Mainland beet sugar areas have met their quotas but once in the history of the Act. That they should not be blamed for this is obvious, for sugar beets are less profitable than other crops which grow well in the same section of our country.

In 1948, the first year the present Act was effective, total domestic sugar disappearance, which roughly approximates consumption, was 7.5 million tons; in 1953, Americans consumed some 8,365,000 tons. Per capita consumption of refined sugar increased during the same period from 94.9 pounds in 1948 to 96.2 pounds in 1953.

Since 1951, the domestic beet areas have not once met their total quota of 1,800,000 tons, raw value, as specified in the Sugar Act. In 1951, the mainland beet area's quota was adjusted downward from the maximum of 1,800,000 tons to 1,700,000 tons. In 1952, the mainland beet quota was adjusted downward again, this time to 1,560,000 tons. In 1953, the mainland beet quota again was reduced from the 1.8 million maximum to 1,620,000 tons.

However, neither increased consumption nor decreased production in the only other mainland source of sugar has resulted in any material benefit to the Mainland Cane Areas. As the law now stands, Mr. President, Cuba, rather than our own cane growers receives the full benefit of our increased domestic consumption, and also the major share of the main-

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POLYELECTROLYTE FOR SUGAR JUICE CLARIFICATION

By J. H. Thibaut

Presented at the Annual Meeting of the American Society of Sugar Cane Technologists, held in Houma, La., on February 15, 1954.

In the manufacture of sugar cane the degree of clarification effects all the subsequent stations of the factory. Monsanto Chemical Company's Plastics Division became interested in this problem some time ago and has developed a resinous polymer, Lytron X-886, a synthetic polyelectrolyte that has been evaluated as clarifying agent and found to work extremely well. Lytron X-886, when added to a normal juice in very small quantities from less than 1 ppm to about 10 ppm, increases the degree and rate of flocculation, as well as the rate of settling and produces scum or muds that are readily filtered.

To understand how the polyelectrolyte functions in the clarification of the raw juice it is probably well to go back and explain briefly the fundamental working of a polyelectrolyte on the flocculation of a colloidal suspension. Most solids suspended in water are negatively charged with respect to the water. As a result of this charge, the particles repel one another.

In the case of a raw sugar juice a large portion of the juice impurities are colloidal and do not combine a flocculate without some special treatment. The addition of milk or lime introduces an electrolyte, "Calcium," to the suspension. The positively charged calcium particles are attracted toward the negatively charged colloidal impurities. If the concentration of the calcium is sufficiently large the repulsion between the colloidal particles is reduced so that the colloidal particles will pull together and flocculation results. Upon the addition of Lytron X-886 to a colloidal suspension containing a flocculating amount of calcium, the rate of flocculation and sedimentation of the impurities is greatly increased when compared with the juice containing the calcium alone. The overall result is more complete flocculation of all impurities even in the presence of extremely large quantities of mud having increased rates of sedimentation and filtration.

The increased rate of flocculation and sedimentation of a suspension upon addition of polyelectrolyte is explained on the basis of bonding by the polymer. The formation of bridges between the flocculating particles prevents these particles from flying apart again in their normal movement and the rate of flocculation is increased. The larger, more stable flock settles faster and filters better.

Evaluation of Lytron X-886

The field evaluation work with Lytron X-886 started in October, 1952 in Louisiana. Several sugar houses were contacted and it was soon established that improved clarification and greater through-put in clarifiers was a pressing problem with all of them.

To obtain data the usual standard laboratory settling tests were conducted. Some of the many variables considered in the clarification of raw sugar juices were the order of addition of reagents, the alkalinity, temperature, concentration of Lytron X-886 and the nature of suspended impurities.

It was established first in the laboratory and later in plant testing that the juice should be limed before the addition of the polyelectrolyte. This order of addition brings into play the full effects of the polyelectrolyte. Several other basic materials and combinations were investigated in the course of the study and it has been concluded that the lime—Lytron X-886 combination

SUGAR MARKET STATISTICS THROUGH APRIL 23, 1954

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.20	6.12	6.35
QUOTA RAWS DELIVERED NEW ORLEANS	6.17	6.10	6.32
WORLD SPOT RAWS (In Cuba)	3.35	3.25	3.40

SUGAR FUTURES No. 6
(Closing Bid Prices)

	July	Sept.	Nov.	Mch.
Today	5.74	5.77	5.78	5.54
1 Month Ago	5.70	5.75	5.76	5.48
1 Year Ago	5.94	5.98	5.98**	5.58

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	286,730 bags	739,947 bags
Godchaux	224,314 bags	549,390 bags
Colonial	213,957 bags	637,041 bags
Henderson	76,118 bags	197,465 bags
Southdown	None	None
South Coast	121,308 bags	226,258 bags
Sterling	None	None
Supreme	109,382 bags	266,789 bags
Totals	1,031,809 bags	2,616,890 bags

is most effective.

The effects of PH were determined by varying lime concentration at fixed concentrations of Lytron X-886. The clarifying action of the polyelectrolyte was effective over the entire range of PH tested. Optimum results have been obtained at varying PH values at different sugar houses. Based on this improvement consumption of lime and subsider capacity may both be greatly reduced.

The amount of polyelectrolyte required to flocculate properly and settle impurities from raw juice varies from location to location. Field data indicate that from less than 1 ppm to about 10 ppm based on the total weight of a normal juice has been satisfactory. Caution should be observed not to overheat the juice because of a reversal in some of the reaction involved which produce a slightly hazy clarified juice.

As a result of field experience the importance of the solution concentration of the Lytron X-886 being added to the raw juice and the importance of the point of entry into the system have been demonstrated. An aqueous solution of approximately 0.5% Lytron X-886 has been found to be most effective for getting adequate ditribution of the small quantities of Lytron X-886 required in the juice. To obtain maximum results of the polyelectrolyte should be added to a point in the system following liming where any vigorous mechanical stirring after the formation of the floc is eliminated. Vigorous stirring after the floc is formed tends to tear off particles and prevent settling. The effects of concentration and point of addition have been demonstrated in both cane sugar and beet sugar processing.

Proper treatment of raw juice with polyelectrolyte produces denser muds which occupy less volume and are more readily washed and filtererd.

Plant Evaluations of Lytron X-886

Based on the promising results of

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ELLENDER

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land beet sugar areas' inability to meet its quota. Under the present system of fixed quotas, the domestic cane area must operate under a fixed 500,000-ton production ceiling, despite the fact that per-acre production has increased, and the only other sugar-producing area in our Nation proper has been unable to meet its quota.

To remedy this situation, I introduced S. 3019, which would increase to 600,000 tons raw value, the present domestic cane quota of 500,000 tons of sugar. This increase, Mr. President, is less than one-third of the increased domestic sugar consumption registered since 1952. It is less than 10 percent of the consumption increase since 1948, the year the present Act became effective. It in nowise penalizes or discriminates against the beet producing areas, since these areas have not met their total allowable quota under the Act during the last three years.

My bill does not penalize or unfairly affect Cuba, since it deals with only a small portion of the increased domestic consumption of sugar realized since the passage of the Act in 1948.

Cuba has done well under the present Sugar Act. It has had the benefit of a stable American market, and a guaranteed minimum demand. Cuba has received, as the law now provides, its fair share of the prorated deficits accrued by other domestic areas. In addition, Cuba has received the benefit of our greatly increased domestic consumption. While the Cuban producers have benefited, while quotas assigned to Puerto Rico and the Virgin Islands have been increased, and while the beet areas have met their quotas only once in the history of this Act, the sugar cane areas face the necessity of plowing up cane already in the ground.

Under the announced allocations of proportionate share acres, which in essence are acreage quotas, the domestic cane producing areas have already been forced to take a 5 percent cut in acreage—from a total of 347,000 acres in 1953 to 320,000 acres in 1954. This 1954 acreage, besides being 27,000 acres less than was produced last year, is 20,000 less than the total acreage harvested in 1948, when the Act became effective and the present 500,000-ton quota was established.

There is every indication that the worst has not yet occurred, that it is yet to come, for statistics available at this time point toward the probability that domestic cane producers will be forced to take another 30 percent decrease in acreage in 1955. In other words, 30 percent of total cane acreage will have to be plowed up next year, on top of the 5 percent reduction already enforced upon Mainland Cane Areas this year.

In the face of this situation, Mr. President, I do not believe I am impatient in suggesting that some action on my bill be taken soon. As the matter now stands, a quota increase truly means life or death to our domestic sugarcane industry.

As with any proposed legislation, I understand there are difficulties. I am hopeful that the Senate Finance Committee will cooperate and that hearings will begin on the sugar quota increase bill in the near future. I realize that there is some hesitancy in initiating hearings on this side of Capitol Hill. Since the Sugar Act involves revenue and, according to our Constitution, bills affecting taxation must originate in the House of Representatives, there has been some feeling in the Senate that the House should start the ball rolling. I should like to emphasize, however, that a companion bill has been introduced in the House; the groundwork has been laid for quick House Committee action. Therefore, I hope that the House Agriculture Committee, to which the bill has been referred in the lower Chamber, will take the initiative and at least give Mainland cane producers an opportunity to be

heard. They deserve, and should have, an early opportunity to present their case. In this connection, I have been in contact with the House Committee several times, and I have been unable to receive a commitment that action will be taken quickly, if at all.

I have been unable to learn of any sound reason for postponing hearings, at least. In the meantime, if no bill is passed this year, if no quota increase is provided, our Mainland cane producers will have to plow up an additional 30 percent of their acreage. This is a drastic step, for an acre of cane represents much more than a one-year investment. The cost of planting an acre of sugarcane is high. It is usually amortized over a period of some 3 to 5 years because it is usually possible to harvest that many crops of cane from one planting. Thus, the plowing up of 30 percent of next years crop, coupled with the present acreage reduction of 5 percent, would represent a staggering loss to the sugarcane farmer.

Action must be forthcoming soon, Mr. President. The sugarcane areas want no more than is rightfully theirs. We do not ask special favors. We suggest, however, that in the face of increased domestic consumption, lowered beet sugar production, vast increases in per-acre production, made possible by application of Department of Agriculture research, realistic adjustments be made in Mainland cane quotas.

As any housewife will testify, it is in the national interest for us to maintain a healthy sugarcane industry. World War II provided proof positive that the Mainland cane industry is a vital and necessary part of our agricultural economy. It is foolhardy. Mr. President, to drag our feet on a bill which would go a long way toward assuring economic health to this vital agricultural component while working a hardship on no one. I hope that the Senate will soon take action and that the House will show the way. We ask only a fair hearing, fair treatment and fair evaluation of the situation facing the sugarcane industry. We are sure the facts will prove our need.

Mr. Holland. Mr. President, will the Senator from Louisiana yield?

Mr. Ellender. I am glad to yield.

Mr. Holland. Mr. President, first I wish to commend the distinguished Senator from Louisiana just as strongly as I can for his having brought up this matter, which is of vital concern not only to a substantial segment of the agricultural industry of his state, but also to a substantial group in my state, and to the Nation as a whole.

I wish to ask the distinguished Senator whether it is not correct to say that when hearings are concluded before the Senate Committee on Finance, if the Committee should determine that the claim of the sugar producers in the State of Louisiana and in the State of Florida is sound and based on good judgment, the Committee might with very great propriety attach this measure, which he has introduced, along with his colleague and the Senators from Florida, as an amendment to an important revenue measure which is now being considered by the Senate Committee on Finance?

Mr. Ellender. Yes; that is possible, certainly.

Mr. Holland. I shall ask the distinguished Senator this question: Is it not true that the problem as now existing in the sugarcane producing areas of the Nation is wholly the result of increased production rather than the result of swollen acreage?

Mr. Ellender. The Senator from Florida is correct. As I pointed out, the sugarcane plantings this year will be 20,000 acres less than in 1948, when the present Act became effective. As I pointed out earlier, if the 30 percent cut, which will be effected next year if the increase in the Mainland cane quota is not approved, is added to the 5 percent reduction already imposed, it will

(Continued on next page)

mean a total acreage reduction of over one-third. Nevertheless, the Mainland cane areas will still be able to provide the maximum production now specified in the law, namely 500,000 tons.

Mr. Holland. I ask the distinguished Senator from Louisiana whether it is not true that the plowing under of this large acreage, which is planted and producing acreage of cane, mentioned by the distinguished Senator from Louisiana, is in a sense more tragic than the plowing under of cotton and the slaughtering of little pigs, about which we heard so much resentment expressed for many years, in that if such a course is followed in the sugarcane industry it will mean the plowing under of values which have been created over a period of years and the destruction of the productive power of cane that was planted in some cases several years ago.

Mr. Ellender. That is correct.

Mr. Holland. Is it not also true that the cane planted some years ago and now growing and producing is of great value in dollars and cents, and that the forced destruction of that value would represent a tragic loss and, in some cases, a loss which would bring bankruptcy and ruin to various producers of cane sugar?

Mr. Ellender. There can be no question about that. The Senator from Florida is absolutely correct.

Mr. Holland. Mr. President, to cap up the matter I wish to ask if I am not correct in my understanding that the Senator from Louisiana does not propose to dip into the allotment made to any other area, but proposes in his bill, in which I am happy to join, to claim for the cane sugar producers of this Nation only a fraction of the increase in sugar consumption which has developed in recent years, partly due to the increase in the uses of sugar and partly due to the increase in population?

Mr. Ellender. The Senator is correct. The increase in consumption for 1953 was 125,000 tons. The increase I have asked for will account for only 80 percent of that amount.

Mr. Holland. The distinguished Senator from Louisiana, in his bill, asks for an increase of 100,000 tons, to be added to the 500,000 tons already allotted to the cane sugar producing areas of the Nation. Is that correct?

Mr. Ellender. That is correct.

Mr. Holland. The 100,000 tons of increase would represent only a portion, and not a large portion, of the increase in sugar consumption that has been realized during the years since the Act was enacted. Is that correct?

Mr. Ellender. That is correct.

Mr. Holland. Mr. President, I not only join the distinguished Senator from Louisiana, but I dare to express the hope that his efforts will be crowned with success. I call his attention to the fact that the sugarcane industry has shown very great restraint under this law. In my own state, the areas which could be subjected to planting, and which would shortly result in large amounts of additional sugar, constitute a very great acreage. Large expenditures have been made for the reclamation of additional land, which could easily become productive.

Not only has this self-disciplined and self-restrained industry not been permitted to have its share of the natural increase in sugar consumption, but it is faced with the prospect of being forced to retract its acreage at the expense of plowing under valuable plantings now existing. I believe it would be tragic indeed if that were to occur.

Mr. Ellender. The Senator will recall that not too many years ago, during the days of sugar rationing, or when those days were still fresh in our memories, some of us were most anxious to increase the mainland production of sugar to at least a third of our requirements. Today, it is a little less than 28 percent. For us now to cut the acreage fur-

ther will mean, of course, much less self-sufficiency in much less mainland production of sugar. It is my hope that when the bill is extended next year we shall provide our continental producers with a quota of at least one-third of United States consumption. I feel sure they will be able to meet that goal.

———o———

POLYELECTROLYTE

(Continued from page 233)

laboratory work conducted at Evan Hall Sugar Cooperation in Louisiana, arrangements were made to evaluate Lytron X-886 as an additive in the muds going to plant Oliver filters. The first runs were made by adding 4 ppm polyelectrolyte as a 1% aqueous solution to the total muds removed from the clarifiers. This caused a change in mud characteristics and resulted in the formation of a better filter cake and cleaner filtrate. Continued plant tests at Evan Hall included the addition of 4 ppm polyelectrolyte to the raw limed juice going to the Dorr clarifiers. With the start of Lytron X-886 additions the muds became heavier and improvements in filtering were reported. During the test period extremely poor juices, heavy with mud, were run and it was expected that production would fall off. The increased flocculation and subsidence rate attendant with the polyelectrolyte treatment made it possible to continue at about the same level of production.

In addition to the improvements in the clarification procedures, it was also established that molasses viscosity was reduced when polyelectrolyte was used. This lower viscosity should be advantageous in the boiling house and in the separation of molasses from the crystal sugar.

Investigations and inquiries showed that the same problems in clarification were and are prevalent in Cuba and Puerto Rico. The use of mechanical cane handling equipment is constantly introducing new problems. At Central Cortado in Puerto Rico plant tests using Lytron X-886 were run over a period of six to eight weeks. This Central, which used a system of compound clarification, was experiencing unusual difficulties because of the introduction of mechanical harvesting. Production had dropped from 1700 tons to 1300 tons. Lytron X-886 was added as an acqueous solution at 10 ppm to the total juice after liming. Shortly after the addition was started muds in both primary and secondary clarifier became much heavier and within eight hours muds levels in the clarifiers had receded to a normal level and the rate of clear juices passing through the clarifiers had been increased. Production was returned to 1700 tons and was limited only by the fact that the plant had no method of getting rid of the muds other than putting them on the mills. Central Cortado is installing rotary filters to eliminate this bottle-neck.

The cessation of the use of polyelectrolyte addition in this plant again produced very thin muds and poor clarification and production dropped back to the 1300 tons.

———o———

IN WASHINGTON

(Continued from page 229)

the real source of opposition to the sugarcane quota increase, and the one he fears most is the Department of State. According to the Senator, the State Department seems to be more concerned with the sugar industries in foreign nations, principally Cuba, than our own. He said the State Department is opposed to the bill on the grounds that it might disturb the Cubans despite the fact that our own sugar producers are threatened with an additional 30 percent reduction in acreage unless the increase is granted.

———o———

UP FRONT

(Continued from page 227)

officials of our Government relative to the passage of legislation that will increase the Mainland cane su-

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gar quota from 500,000 to 600,000 tons.

Messers Wallace C. Kemper and Gilbert J. Durbin left New Orleans on Easter Sunday and came back home Tuesday night. While in Washington they had a thirty minute conference with Secretary of Agriculture Benson. The Secretary told them, as he has publicly stated before, that he is very sympathetic towards the request of the cane farmers of Louisiana and Florida for a higher sugar quota.

The Secretary asked that he be given a written memorandum covering the points discussed at the conference and the following are excerpts from a letter mailed to him on April 21st.

"Briefly, the justification for the proposed increase in the Mainland cane sugar area quota is as follows:

1. The Mainland area has produced more than its 500,000 ton quota in four of the last five years and has produced more than the requested 600,000 ton quota in each of the last two years.
2. The larger production in the Mainland area has been due to larger yields per acre and not to any increase in acreage.
3. The alternative to a quota increase is an extremely large acreage cut to reduce next year's

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production. This will be in addition to the 8 percent acreage reduction ordered last summer by your Department to apply to the present crop.

4. An acreage reduction in the case of sugarcane involves the plowing up of cane and the resulting destruction of capital investment because three to five crops are normally harvested from one planting of sugarcane. That loss is in addition to the usual loss caused by shrinkage of production when fixed costs continue to increase and sugar prices stay far below the price indicated by Section 201 of the Sugar Act as fair and reasonable.
5. Sugar consumption has increased approximately 1,000,000 tons since the Sugar Act of 1948 was enacted. Since that date Puerto Rico has received 170,000 tons more quota and the Virgin Islands have received an additional 6,000 tons. No other domestic area has had a share of the remaining increase in consumption.
6. The 100,000 ton proposed increase for the Mainland cane area will be less than the amount needed to satisfy increased consumption resulting from only one year's population growth.
7. We can report most emphatically that everyone we have talked with agrees that the Mainland cane area is entitled to the additional 100,000 tons of quota but some have raised a question as to the proper time to amend the Sugar Act. We do not agree with those who infer that a delay has any merit. We have not asked for a quota increase before it is actually needed and we are not asking for more than we actually need. Any delay will make inevitable an order to destroy cane since there is no economic product to be made from sugarcane other than sugar.
8. We hope you will agree that we are justified in our desire to continue producing, on the same acreage, a non-surplus necessary food.

We believe that a strong indorsement from you will be of material assistance, and we hope that you will take pleasure in advocating that the House and the Senate pass the bills to increase the quota for the Mainland Cane Sugar Area from 500,000 to 600,000 tons."

Bulletin No. 42

The Department of Chemical Engineering of Louisiana State University has issued Engineering Experiment Station Bulletin No. 42 the title of which is "Evaluation of Sugar Cane Varieties—A Study of Milling Characteristics."

Bulletin No. 42 is a report of work done under contract with the U. S. Department of Agriculture and has to do with the millability of new cane varieties. The canes used in the tests were supplied through the cooperation of the American Sugar Cane League.

We have carried reports from time to time in The Sugar Bulletin regarding these cane milling experiments. Bulletin No. 42 is a summary of the results obtained for the 1950, 1951, and 1952 seasons.

Messrs. Francis C. Schaffer, E. R. Goodell, C. W. Stewart, and Arthur G. Keller collaborated in preparing the summary for the 1950 and 51 seasons, and Messrs. Douglas Harlan, Arthur Kunberger, and C. W. Stewart prepared the reports for the 1952 season. The work is under the supervision of the Southern Regional Research Laboratory of the Bureau of Agricultural and Industrial Chemistry.

You may obtain a copy of Bulletin No. 42 by writing to Mr. Paul C. Koons, Acting Director of the Engineering Experiment Station, Louisiana State University, Baton Rouge 3, Louisiana. The cost of the Bulletin is 50 cents per copy.

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THE SUGAR BULLETIN

l. 32—No. 16 MAY 15, 1954

icial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

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The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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UP FRONT WITH THE LEAGUE

BY A. W. DYKERS

Sugar Legislation

Wallace C. Kemper, Chairman of your League's Legislative Committee, and Gilbert J. Durbin, the League's General Manager, have again gone to Washington to confer with the representatives of other Domestic areas and officials of our Government regarding quota increases. This is the fourth trip that these two gentlemen have been called upon to make to our Nation's Capitol since it became evident that the Louisiana and Florida cane farmers will have to plow up thousands of acres of cane unless the sugar quota for the Domestic Cane Area is increased.

Mr. Kemper reported to the Executive Committee of the League on April 30th that little actual progress has been made since bills were introduced in the House and Senate in February to increase the Domestic Cane Area Quota to 600,000 tons.

We believe that a good description of the situation right now is that both sides are "jockeying for position."

Sugar Prices

The sugar market has been a sorry affair since the consumption estimate was increased 200,000 tons on March 16th. The price of raw sugar in New York today (May 11th) is 6.10 and this is 30 points below the 6.40 quotation prevailing on the same day one year ago. Cuban, Puerto Rican and Philippine raws were sold during the past week-end at 6.12 and Puerto Rican sales are reported today at 6.10. Trade sources report that the market is under the pressure of unsold, early arrival Philippines.

As we have stated on numerous occasions, allowing shiploads of Philippine sugars to arrive at ports in this country unsold is a practice that is costing the sugar producers and farmers in every area serving our market, including those of the Philippines, a lot of money.

In this connection it is interesting to note that a bill to extend the Philippine Trade Act to January 1956 is scheduled to come up for debate in Congress at an early date. This bill would allow Philippine sugars to continue to enter this country free of duty until the 1956 date.

Senate Ratifies ISA Agreement

The International Sugar Agreement was ratified by the U. S. Senate on April 28th by a vote of 60 to 16.

The International Sugar Agreement was negotiated at a conference held in London last summer. It is concerned with "world" sugars and has nothing to do with quota sugars shipped to this country under the Sugar Act. It will be recalled that our own Wallace C. Kemper was a member of the delegation from the U. S. A. attending the London conference.

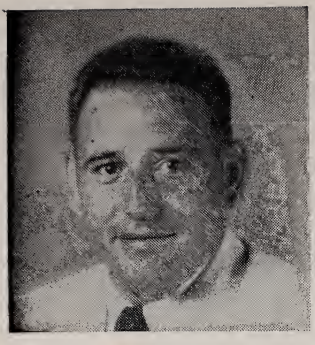
Ratification of the Agreement was endorsed by all quota areas. It was actively opposed by the low price group commonly known as "Industrial Consumers."

J. Alfred Levert Dies

It is with deepest regret that we chronicle the death of Mr. J. Alfred Levert, patriarch of the well known Levert family who for years have operated extensive sugar properties in Louisiana.

Mr. Levert died at 6 A. M. on the morning of May 5, 1954 in the Touro Infirmary. He was eighty years old. He was buried from the home of his son, John B. Levert, 1514 Nashville Ave., New Orleans.

Mr. Levert was President of Levert-St. John, Inc., operators of the Levert-St. John factory at St. Martinville, La., and also the J. B. Levert Land Co. He also headed the Hotel DeSoto Company, owners of the Hotel DeSoto in New Orleans.



IN THE FIELD WITH LLOYD LAUDEN

The Value of Uniformed Recommendations

There is now a move under way by the Extension Service of Louisiana State University to apply a plan in our sugar cane area similar to one which was originally used in the cotton area of the State and that met with much success in increasing cotton yields.

This plan, as developed for cotton, consisted of merely calling meetings of all Extension Service personnel, F. H. A. Administrators, County Agents, Assistant Agents, Soil Conservation Service workers, bankers, and others who had the opportunity to advise farmers. The purpose of these meetings was to decide on specific recommendations and to instruct all farm advisors to give the same recommendation on the same practices in order to prevent confusion among the farmers. These meetings were held in all sections of the cotton area.

Since this plan was put into action in 1951 Louisiana has greatly improved its relative position among the Southern States from the standpoint of yield of cotton per acre. The Extension Service does not claim all the credit for the increased yields, but this plan has certainly been of great importance in the upward trend in cotton yields in Louisiana.

Mr. H. C. Sanders, Director of the Extension Service, Louisiana State University, feels that a similar plan will also work with sugar cane.

The League has been in conference with Director Sanders and members of the Extension Service to discuss the plan. The Extension Service recognizes that recommendations will have to differ for different parishes and areas but, nevertheless, within a specific area the same recommendation can and should be used by all farm advisors.

If the County Agents, Assistant Agents, F. H. A. Administrators, Soil Conservation Agents, bankers who lend money, sugar factories, who sell fertilizer to farmers, L. S. U., U. S. D. A., and the League all tell the same story to a farmer regarding what kind and what amount of fertilizer to apply to sugar cane, then there is a better possibility that this recommendation will remain in the farmer's mind and will be used. This does not apply to fertilizer recommendations alone, but to all other practices, cultural, insect control, varieties, farm machinery, and the like.

On a recent one week tour of Secondary Increase Stations in the western section of the belt I had the pleasure of talking with several small farmers and discussing the crop in general with them. Many of the small farmers are still growing old varieties of cane that are inferior to the more recently released varieties. As an example, one small farmer had only 15 rows of 44-101 that he purchased last year. He was greatly pleased with it, and is planning to increase it as rapidly as possible. It is almose unbelievable, but nevertheless a fact, that this farmer was very much surprised to learn that 44-101 had been released

(Continued on page 254)

IN WASHINGTON WITH JOE FERRIS

Monkey Business

For several weeks rumors have been circulating in Washington sugar circles that Cuba was planning to ship to the United States large amounts of sugar for use in animal feeding. The quantities mentioned range from 50,000 tons to 1,700,000 tons.

In an effort to run down the rumors, everyone in Washington who might be informed on that subject was interviewed. It seems that a retired employee of the Havana Branch of one of the large New York banks conceived the bright idea that Cuba could ship to the United States sugar made from excess quota sugarcane for use as animal feed and that such sugar would be exempt from the quota and certain tax provisions of the Sugar Act.

The proposal contemplates utilization of some of the large stocks of sugar on hand in Cuba earmarked for local consumption. It is understood that this sugar would be dyed green, possibly with some form of Chlorophyll or other substances extracted from some part of the cane plant and another substance would be added to impart a taste unpalatable to humans but which would not detract from the value of the sugar for stock feed purposes. The price of the adulterated sugar would be 2c per English pound, 96° sugar, f. o. b. Cuban ports, less 1 percent commission.

The originator of the program has succeeded in arousing the interest of certain Cuban government officials in the project on the grounds that it would provide more employment for Cuban labor. The Cuban Sugar Institute has circularized the Cuban mills asking whether they would care to participate in supplying 50,000 tons of this camouflaged sugar for shipment to the United States.

The U. S. Embassy in Havana, through the State Department, has requested the U. S. Bureau of Customs to issue a ruling on the following points:

1. Is the green-dyed unpalatable substance sugar or not?
2. If it is not sugar, to what sort of tariff would it be subject?
3. If it is sugar, would the excise tax be applied to such a product shipped into the U. S. specifically for use as stock feed?

Certain southern carriers have made application to the Southern Ports Foreign Freight Committee in Chicago for reduced freight rates on Cuban sugar for stock feed from the port of New Orleans to Middle West cities where feed mixers are located. This application is designated as Railroad Freight Committee Case No. 5595. It is understood that representations have been made to the Southern Ports Foreign Freight Committee that this business would probably amount to more than a million tons a year. Presumably any reduced rate decided upon by the Committee would have to be filed with and approved by the Interstate Commerce Commission and, in the event of an objection, a public hearing would be granted.

Despite protestations of Cuban sugar interests to the contrary, U. S.

(Continued on page 254)

MR. PIPES PRESENTS LIFE MEMBERSHIP TO DR. ABBOTT

The American Sugar Cane League, representing the Louisiana Sugar Industry, deeply appreciates work done in its behalf, especially by the ablest scientists over the world and particularly those employed by the States and the Federal Departments of Agriculture. The League realizes that the industry's survival, in the past and its progress in the future, depends on able research workers.

The American Sugar Cane League does not attempt to compensate these individuals in dollars and cents. In fact, the contributions of these scientists cannot be properly evaluated in terms of money. The whole basis for progress in material things rests with the research scientist. His major reward must be the knowledge that his work makes the world a better place in which to live. It is proper, however, that the research worker's fellow man should let him know that his work is deeply appreciated.

The American Sugar Cane League wishes to make certain individuals a part of itself and confer upon them a life-membership which makes them part and parcel of the industry. At a previous meeting, the Executive Committee by unanimous vote conferred their greatest honor upon two individuals, who have and are contributing so much to the welfare and progress of the industry. It is my pleasure to speak somewhat regarding one of these individuals.

On July 9, 1899, E. V. Abbott, was born in Ashland, Oregon. In 1922, he received his Bachelor of Science degree. In 1923, he received his Masters degree at Iowa State College and in 1925 the Iowa State College awarded him a degree of Doctor of Philosophy.

In 1925-26, Dr. Abbott became Assistant Plant Pathologist, at the Louisiana Agricultural Experiment Station. In 1926-27 he moved back to Iowa State Experiment Station to become Assistant Chief, Soil Chemist and Soil Bacteriologist. In 1927-30, he served as Plant Pathologist, Estacion Experiment Agricultural Station in Lima, Peru. In 1950, he was made Superintendent of the Houma, Louisiana Station. In 1951, he made a trip to Peru at the request of the Grace Co. to study disease, breeding and variety problems of cane. In 1952, he was made coordinator of Pathological Investigations on sugar cane and sorgo, for the Federal Division of Investigations. In 1952, he made another trip to Peru under the auspices of their Suger Producers Association, to study disease and production problems. This trip also included visits to Palmyra, Colombia and the Canal Zone. In 1952, at the request of the Mexican Sugar Cane Growers, he also made a trip to Mexico to study disease problems. In 1953, he was the official representative of the Division of Sugar Plant Investigations, at the 8th Congress of the International Society of Sugar Cane Technologists.

He has identified different physiological strains of the red rot organism and shown that different strains affect sugar cane with different degrees of virulence.

He has identified Chlorotic Streak, Sclero-Spora and Stunting Diseases in Louisiana, and along with all that work, he has been in charge of the seedling development program in Louisiana of the Division of Sugar Plant Investigations.

I consider it an honor and a special privilege to present Dr. E. V. Abbott a certificate and a key which attest his Life-Membership in the American Sugar Cane League.

———o———

Jesuits introduced cane cultivation to the Argentine in 1670 and were the first to bring cane to what is now the United States. In 1751, the first crop was planted in Louisiana with cuttings from Santo Domingo.

MR. VOORHIES PRESENTS LIFE MEMBERSHIP TO DR. CHILTON

Dr. St. John P. Chilton was born in 1909 in Philadelphia, of Louisiana and Mississippi parentage. He moved to Louisiana at an early age.

In 1927 he was graduated from St. Vincent's Academy.

In 1928 he completed a course at the Baton Rouge Business College.

In 1935 he received his B. S. Degree at Louisiana State University where he maintained a straight A average for his undergraduate work.

In 1936 he received his M. S. Degree at L. S. U.

In 1938 he was awarded his Ph. D. Degree at the University of Minnesota. While earning this degree he also served as a part time instructor.

During the period 1938-40 he was Agent for the U. S. Regional Pasture Research Laboratory at State College Pennsylvania.

In 1940 he returned to L. S. U. to become Assistant Professor and Assistant Plant Pathologist. In 1944 he was promoted to Associate Professor and Associate Plant Pathologist. In 1948 he was promoted to Field Professor and Plant Pathologist.

In 1950 he was again recognized and promoted to Chairman, Department of Botany, Bacteriology and Plant Pathology, College of Arts and Sciences and Head of the Department of Plant Pathology of the Louisiana Agricultural Experiment Station. His prior research activities included; research on genetics of fungi; research on disease of forage crops; research on disease of rice; and research on sugar cane diseases, breeding of sugar cane and control of weeds in sugar cane.

With the cooperation of his associates he has published over 80 reports on research studies.

In 1946 he became disturbed with the status of the sugar cane development program and began to study ways and means of developing sugar cane seed and seedlings in Louisiana. He looked into the temperature records and with very little encouragement from others he decided to attempt to produce seed on Grand Isle. He planted his first canes in November 1948. He, of course, had no funds to work with. He spent his vacations and week-ends there with his associates and together they worked to produce the canes and built a temporary makeshift greenhouse. I would not call Dr. Chilton hard-headed but once he makes up his mind that he is right he goes through with it, with the tenacity of a tick, come hell or high water.

He, of course, has had disappointments and heart aches but in 1951 he produced 68,000, and in 1952 75,000, Louisiana bred sugar cane seedlings.

Then his ever alert inquisitive mind began to figure on ways and means of producing seed in Baton Rouge. He made a study of day light time and devised a crude contraption to control the light to which canes are exposed.

He constructed a dark room and devised a method of rolling the canes in and out, varying the daylight hours every day. He undertook to handle the process himself to make sure that what he wanted done was done. In 1953 he produced 18,000 seedlings in Baton Rouge and was able to make Co. 290 tassel.

All of this cane breeding was over and above his regular duties and through his well thought out persistence he has developed a cane breeding method which promises to be revolutionary and should prove of immense value to the Louisiana sugar industry and to cane breeding generally.

I have been privileged to keep up rather closely with his efforts and I deem it a particular privilege to present to Dr. Chilton, in the name of the League, a Life-Membership in the American Sugar Cane League.

WHAT IS NEW IN SUGAR RESEARCH?

(Editor's note: Our apologies to Dr. Hass for omitting several paragraphs of the original article to conserve space)

An address by Dr. H. B. Hass, President, Sugar Research Foundation, Inc., to the Executive Committee of the American Sugar Cane League on April 30, 1954.

As you know, I have been with the Sugar Research Foundation for a little less than two years. During this time we have had the advice and counsel of many members of both the cane and beet sugar industries. It is difficult for many members in the New Orleans area to attend our meetings, which as usually held in New York. Therefore, I welcome this opportunity to get better acquainted.

The past year has seen the completion of two research projects of great present value to the sugar industry and four more of great potential value. Let's look at them in turn. Four are in the Foundation and two are outside.

First, let's consider the work of Ray Bohn and Foster D. Snell on the value of sucrose vs. dextrose in bread. This was completed by July 1st of 1952, but the results were so lopsidedly favorable to sugar that men in our industry refused to believe them. We had the experiments done over again in other laboratories—Arthur D. Little and the American Institute of Baking—and the facts still emerged the same.

Briefly the picture is as follows: The sugar is inverted to glucose and fructose by the invertase of the yeast before mixing the dough is even finished. Glucose is selectively fermented, leaving a disproportionate amount of fructose. The relative sweetnesses are glucose 70, sugar 100, fructose 170. Customers prefer the flavor of sweet bread and because of this the sugar in bread, based on flour, has gone from 4% in 1945 to 8% in 1953. We made the comparison in two ways. At equal cost 6% sugar gave sweeter bread than 7% dextrose. At equal sweetness 5% sugar was cheaper than 8% dextrose.

Sugar Information has held baking schools for sugar salesmen in San Francisco, Chicago, New York and New Orleans. This year Ray Bohn is carrying this message to bakers all over America. Sugar has lost $36 million in annual business to dextrose in the baking industry. We are getting a lot of that back. When the big companies with research laboratories return to sugar, the little ones are apt to come along too.

The second job which I want to discuss is sugar in pigstarter ration. It began in August, 1952 and was using sugar by the multiple carloads in February, 1953. The project originated in the mind of a former student of mine, Prof. Damon Catron, who is in charge of research in swine nutrition at Iowa State College. He had wrestled for years with the question of how you could get young pigs, starting at about one week of age, to eat more synthetic ration. There were many advantages if the pig-headed little fellows could only be convinced:

1. The mother sow would not step on them or smother them.
2. Sow's milk is deficient in copper and iron, resulting in partial nutritional anemia for the pigs; this could be corrected.
3. After the Pigs are three weeks old the sow's milk declines in quantity while the growing pigs require more.
4. The number of filling stations on the sow is limited so that runts were inevitable with large litters if the pigs had only sow's milk. With a synthetic ration, the geneticists could breed for large litters which reduce overhead costs.

5. The pigs could keep healthy by eating antibiotics.

6. The sow could be bred more frequently if the pigs are fed artificially, thus reducing overhead further. It might also make life more interesting for the sow.

The problem was to make the synthetic ration more palatable to the pigs. Pelletizing or granulating to eliminate dust from the feed helped, but it was not enough. Catron was listening to the radio one day when sugar-coated cereal was being advertised. Would pigs have a sweet tooth as young humans do? He asked C. & H. to support the work, and they referred him to the Foundation.

Results came rapidly. Pigs first indicated a preference for sugar-coated pellets over those with sugar mixed all the way through. After a while, however, the clever little animals learned to suck off the sugar and spit out the rest of the pellet so now results are better with uncoated pellets containing fifteen or twenty percent sugar. I often wish that food-faddists had as much appreciation of sugar as pigs do.

Feed men were alert to go after a market which they never had before. They adopted it rapidly. Some, not quite so bright, are using dextrose in spite of the fact that dextrose gives less sweetness than sucrose per dollar spent. Before long we hope to have results indicating that pigs are smarter in some ways than the victims of dextrose salesmen.

The results can be expressed in two ratios. The average pig used to weigh 27 lbs. at seven weeks of age, now with the sugar ration many litters have averaged 67 lbs. at the same age. This is important because feed efficiency is greater when the pigs are young. It takes only 1.7 lbs. of feed to produce a pound of gain with the new ration. Fifteen years ago the over-all figure to marketable weight was five pounds of feed per pound of gain. The best comparable figure now is just under three. This is why greatest economy is obtained by inducing the young pigs to gorge themselves.

Dr. M. M. Rosenberg of the University of Hawaii has recently discovered that as much as 28.6 percent of cane blackstrap molasses may be added to poultry ration with good results. Under Hawaiian conditions, a savings of 7c is obtained in feed cost per dozen eggs. This is in striking contrast to statements in the previous literature which indicated that 3-6 percent molasses is all that chickens will tolerate. It is estimated that 29,500,000 tons of poultry feed will be made and used in the United States this year. If anything like 20 percent of molasses were used in this, the molasses supply would be hopelessly inadequate. Here is a large new outlet for molasses which is just coming over the horizon.

Discovery number four is anti-enzyme tooth paste which is reported to be capable of protecting normal teeth against caries for about 12 to 16 hours. There has been so much ballyhoo about ammoniated and chlorophyll dentifrices that it would be easy to dismiss this as another variety of the same old game of bunkum. This might be a mistake. Clinical data, some of which has been published and some of which will soon appear, indicate that the anti-enzymes may be the most important discovery in the history of tooth decay.

They act by inhibiting the action of the enzymes which convert simple sugars into lactic acid. Lactic acid, if allowed to remain in contact with a tooth, will dissolve it. We in the sugar industry have been reluctant to accept the sugar-lactic acid theory of tooth decay which makes a villain of our favorite compound. If the results continue to be as favorable as they are at present, the caries rate will be reduced some 80 percent and we can no longer

(Continued on next page)

continue to oppose the sugar-lactic acid theory.

Fortunately for us, it seems likely that if Dr. Fosdick proves this theory he will also be taking the heat off of us. It will be possible to eat sticky candy all day and still develop no caries.

All this is, of course, on the assumption that present indications are substantiated. If the anti-enzymes do not stop tooth decay, this will constitute a major failure of the sugar-lactic acid theory and will tend to discredit it. In either case the sugar industry will benefit.

If the anti-enzyme dentifrices are as successful as present data indicate, all of the manufacturers of competitive brands will be forced into a race for an even better enzyme inhibitor. There is little doubt that such a product will in time be discovered and caries will become still less important. We are supporting research at Tufts with this objective. Many compounds have already been discovered which look better than present anti-enzymes on a preliminary screening test.

The Roper survey showed that there are three tangible reasons why people do not use sugar: fear of obesity, fear of caries and fear of diabetes. Every doctor now knows that sugar does not cause diabetes; this fact is slowly diffusing to the laymen. If the anti-enzymes perform as expected against caries, it will enable us to concentrate on other problems of the sugar industry.

Fear of obesity is undoubtedly the greatest single deterrent to sugar consumption. This is understandable; the principal nutritional function of sugar is to furnish calories and calories are what the obese person is trying to minimize. The Metropolitan Life Insurance Company has repeatedly emphasized the decrease in life expectancy which overweight or obese persons show as a group. It is characteristic of Americans not to be satisfied with any method of doing anything which is slow, laborious, and unpleasant. Science has given us so many short cuts and labor-saving devices that it is easy for the general public to believe that coal-tar sweeteners provide a painless method of dieting.

I suspected that this was not true. The theory of hunger developed by Jean Mayer in Frederick Stare's laboratory at Harvard is that the desire for food in normal, non-diabetic persons is determined by the level of blood sugar. It predicted that sweeteners derived from coal-tar such as saccharin and Sucaryl, which would be expected not to affect the blood-sugar level, would also not affect the appetite. Experiments with rats have confirmed this conclusion. Two matched groups of rats were each given all the dry food and all the water they wanted. The water of one group contained 10% sugar, corresponding in nutritive value to a soft drink. The other group of rats drank water containing a coal-tar sweetener of the correct composition to match the 10% sugar solution in sweetness.

At the end of the test period both groups of rats still weighed the same. Those which drank the sugar ate less dry food because their blood-sugar level was raised and this depressed their appetites—even as you and I. We are in the process of repeating this experiment with obese humans. Here there are two psychological factors which presumably do not operate with rats.

When a person drinks a beverage containing Sucaryl or puts a saccharine tablet in his coffee, he is reminding himself that he is trying to reduce. This is a psychological prop; it may help a little.

On the other hand, people generally have an exaggerated opinion of the number of calories in a bit of sugar. The correct figure for a level teaspoonful is 18 calories. Persons interviewed recently by Leo Burnett Company in Chicago guessed from 50 to 600, believe it or not.

Many of us have seen examples of the obese dowager who eats two thousand calories at a meal and puts a saccharin pill in her coffee with an air of "Well, now I've done my reducing for the day!" Or the man who is careful to drink a "dry" beer which is nearly free from dextrose (he calls it "sugar") and forgets that the calories of beer are almost entirely in the alcohol.

It is Dr. Stare's guess that this latter effect will more than balance the psychological-reminder angle of using coaltar sweeteners and that when the results are in, a year and a half from now, it will probably be found that saccharin and Sucaryl do not help people lose weight. Your Foundation is betting a considerable amount of money that the results will come out this way. Of course, no one can be sure at this stage.

You may wonder, if the coal-tar sweetener bubble is likely to be punctured this easily, why we are worried about coaltar sweeteners. Frankly, I am not. The thing which worries me is that sugar is the whipping-boy of the whole food industry. We carbohydrate people have been singularly inarticulate. In consequence, while per-capita meat consumption has been gaining, flour and potatoes have been dropping and sugar barely held its own. We Americans now have a strangely distorted diet with only 48.5% of the calories derived from carbohydrates, 40% from fat and 11.5% from protein.

Leading nutritionists are pointing out the chemical connection between this high-fat diet and the formation of cholesterol which partly plugs our arteries and capillaries, restricts the flow of blood, and causes high blood pressure and heart trouble. In 1952 51.6% of all deaths in America were attributed to heart disease. In Italy, where the calories in the diet attributed to fat are down to a normal 20% (compared to our 40%), a man in the 35-year age group has only 21% the probability of death from heart trouble as one in the same age group in the United States.

Suppose you take the percentage of the calories in the various national diets due to fat and plot it on a horizontal axis. Then take the probability of a man in the 55-59 age group dying of a heart attack in a given year and plot this along the vertical axis. You have a point for each country for which such statistics are available. The points connect in a smooth curve with the United States at the top with the most fat and most heart disease, Japan at the bottom with the least fat and least heart disease, and all the other countries in order in between.

Of course, this might have been a coincidence so let's try it again with 45-49 age group. Here the curve is lower; younger men have less heart trouble. But again you get a smooth curve with the United States at the top, Japan at the bottom and the others in order on the curve in between.

This is still inconclusive by itself but the chemical evidence is very convincing. A recent series of between 2,000 and 3,000 autopsies showed that 92% of men dying from all causes had in some degree a condition called atherosclerosis. The lining of the coronary artery had become coated with a fatty deposit consisting 70% of cholesterol.

Where does this excess cholesterol come from? Most is synthesized in the liver.

Last November an article by Medes *et al* in the Jour. of Biol. Chem. reported that slices of liver still living and functioning in a nutrient solution generated cholesterol ten times as fast from fatty acid as when they were fed dextrose.

Fatty acid molecules with radioactive C^{14} atoms were fed to men and within hours some of the radioactivity was detected in the blood cholesterol.

(Continued on next page)

Blood cholesterol values, while fluctuating from one individual to another, are higher in countries on high-fat diets. The normal, middle-aged American man is quietly getting ready for the thrombosis which eventually and inevitably will kill him unless something else gets him first. If you put this man on a low-fat diet, it takes just five days for the blood cholesterol to get down to where it should be. The chemistry of this is simple and fascinating; each time through the intesine some of the cholesterol is converted by bacterial action to an insoluble hydrocarbon called squalene, which is eliminated.

If the carbohydrate industries were to recapture this 20% of the calories in the U. S. diet (the difference between the 40% which fat has and the 20% which it ought to have), and if sugar maintained its present share of the carbohydrate market, this change would mean an increase in the per-capita consumption of sugar of more than a third with a tremendous improvement in general health.

This will never happen while the present climate of public opinion in regard to sugar remains unchanged. We are in an era—almost unique in world history—when in the United States, and a certain few other favored countries, there is more food available than people can eat. Each food industry has to get up and fight for its place in the limited human stomach.

The ignorance about sugar on the part of even intelligent, well-educated people is astonishing. It often includes a great deal of misinformation. It needs to be removed. It is for these reasons that I am unhappy about advertising which implies that sugar is in some unique sense the cause of obesity. I do not think that coal-tar sweeteners are, in themselves, of surpassingly great importance to the sugar industry. The attitudes toward sugar which Sucaryl advertising fosters will, unless vigorously opposed by efforts of the sugar industry, make it impossible for us to grow into the place in the American dietary which we should rightfully occupy.

On September 21 the members of Sugar Association voted unanimously to spend $600,000 per year for at least three years to tell the story of sugar in the diet. This decision to stand up and fight was reached after much debate and prolonged consideration. But there is a point at which any virtue can be carried too far, even that of turning the other cheek. We hope that Leo Burnett can do for sugar what has been done for meat. There will be no bunkum and no ballyhoo, only a process of presenting the facts about sugar in an interesting way.

I hope to see the industry repeat some of this information by printing it on sugar bags. We have missed a wonderful opportunity to tell people the truth about sugar on the billions of sugar bags which customers take home from the grocery.

In January we selected our liaison man for advertising and public relations. He works with Leo Burnett Company, our advertising agency, and with Selvage, Lee & Chase, our public relations firm. His name is David Quinlan and he comes to us from the anthracite industry. Like myself, he has much to learn about sugar, but he learns fast.

You have seen our first two advertisements. Factual, scientifically correct, simple and easy to comprehend, they are the prototype of many more to follow. At last people who never had a course in biochemistry are going to learn that sugar is what keeps every human being alive and with energy to face our daily problems.

The response from the advertisements has been most gratifying. Many of us have seen the editorial which FOOD FIELD REPORTER devoted to the first one. They called our ad a "master-piece; something which happens once in a copywriter's lifetime." A large candy distributor wants to put one in each

box of candy, and we are cooperating. Telegrams and letters have poured in both to Sugar Information and, I understand, to member companies. Some are written by crackpots like the one which read "Why don't you use a pistol, it's quicker?" but most, by far, are complimentary and ask for more information.

I believe that a powerful reason for this interest is that nutritional quacks have made a dishonest living for many years by extreme and unjustified attacks on sugar in the diet. The fact that the sugar industry never seemed to fight back meant to many people that there was little or nothing which could be said in favor of sugar. It comes as a great surprise that a good case can actually be made for sugar in the diet of even obese people.

Sucrochemistry

This word was coined by the writer to designate the branch of the chemical industry in which sucrose and its by-products are the fundamental starting materials. It corresponds to the well-known petrochemical industry in which petroleum and natural gas are the starting materials.

The sucrochemical industry took several long steps forward during the past year. A number of plants were built to make paper from bagasse, one of which was the $2.6 million mill of Valentine Pulp and Paper Co. at Lockport, Louisiana. The South Porto Rico Sugar Co. started construction of a $7 million plant to make furfural (Nylon intermediate) from bagasse. Atlas Powder Co. announced plans for constructing a $10 million plant to make glycerol by the hydrogenolysis of sorbitol which in turn is made by the hydrogenation of invert sugar or dextrose.

Our Project No. 86 turned up a diamine formed in a single step from sugar, starch or dextrose. Diamines go into such diverse end uses as Nylon, dyes and rocket fuels.

Project No. 90 indicated a catlytic method of going directly from lactic acid to acrylonitrile, a substance from which synthetic fibers, oil-resistant rubbers and soil-conditioning agents are made.

Project No. 83 discovered a good detergent (cleaning agent) from sucrose.

Ladies and gentlemen, there is much more which could be told about what your Foundation is doing. Many other projects are showing promise, but we shall have to save them for another day when they are further along. The future for sugar looks very hopeful.

The dues assessment for a raw sugar producer is figured on 2/10ths of a cent per 100 pounds of sugar produced refined value; i. e., ca 3.74c per ton. For an average 10,000 ton factory that would amount to $374 per year. In addition, the special assessment for the advertising program is computed at 60% of the normal annual dues, or an additional $224. Those Louisiana producers who are larger or smaller than a 10,000-ton company can quickly compute their approximate annual dues from that example.

Louisiana's participation in this program is quite small as compared to other sugar areas, domestic and foreign. However, Louisiana's share in the policy-making of our organization is proportionately large. Bill Gibbens is a Director of Sugar Research Foundation, Joe Ferris is a Director and member of the Executive Committee of Sugar Information, and Wallace Kemper is a Vice-President, Director and member of the Executive Committee of Sugar Association, so you can be sure that your participation in our work will be under the guidance of your local people.

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TU 3171

IN THE FIELD

(Continued from page 244)

for commercial planting five years ago.

This farmer has a considerable acreage in C. P. 33-310 and C. P. 29-116. The new, better varieties could no doubt increase his yields and at no extra cost to him. He may like both 29-116 and 33-310, but if he is constantly reminded by farm advisors to buy the more recently released canes he is more apt to do so.

It is the writer's opinion that yields of cane can be increased to some degree by merely having the same story told by all those who advise farmers on any given practice.

———o———

IN WASHINGTON

(Continued from page 245)

producers are fearful that the sale of a large quantity of quota-free sugar would seriously upset the already waning market for their blackstrap molasses.

U. S. D. A. Sugar Division officials agree that sugar imported for animal feed is exempt from charge against the quota (Section 212 of the Sugar Act of 1948, as amended). It is understood that such sugar is not subject to the excise tax which applies only to sugar processed in this country. The sugar, however, would be subject to an import compensating tax of 1/2c as well as the 1/2c tariff.

If the Customs Bureau denies the State Department's request for a reclassification, it still might be

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possible to enter this sugar from Cuba at the world price, plus the 1/2c tariff, plus the 1/2c import compensating tax, and the freight from Cuba to U. S. ports, and sell at a price which would be ruinous for domestic producers of blackstrap.

According to information from usually reliable Cuban sources, the majority of Cuban mill owners are not interested and will not participate in the proposal. They say they cannot make any money at the proposed price of 2c f. o. b. Cuba.

The situation is being closely watched by your Washington representative and Members of Congress from Louisiana and Florida. Prompt legislative action will be taken if the problem gets beyond administrative control.

Annual Meetings

The Annual Meetings of members and Board of Directors of the Sugar Association, Inc., the Sugar Research Foundation, Inc. and Sugar Information, Inc. were held in New York City, May 7.

By unanimous consent incumbent members of the Board of Directors were re-elected for another year. Ernest W. Greene, President of Sugar Association, Inc. and Henry B. Hass, President of the Sugar Research Foundation and Sugar Information, Inc. received the highest praise for their outstanding leadership and accomplishments during the past year.

Louisianians re-elected were Wallace C. Kemper, Vice-President and Director, the Sugar Association, Inc., Will J. Gibbens, Jr., Director Sugar Research Foundation, Inc., and Josiah Ferris, Director and member of the Executive Committee, Sugar Information, Inc.

The Sugar Association, Inc. is the parent corporation. Sugar Research Foundation conducts scientific experiments for the industry and Sugar Information, Inc. acts as a clearing house for advertising, public relations and industry publicity.

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Vol. 32—No. 17 JUNE 1, 1954

Official Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

Quota Legislation

Mr. Wallace C. Kemper, Chairman of the Legislative Committee of the American Sugar Cane League, is fast becoming a "Washington Commuter". He went to Washington on May 21st for the seventh time this year to have further talks with representatives of the other domestic sugar areas relative to quota legislation and, apparently, his commuting activities are not yet ended.

When he returned to his office on May 26th Mr. Kemper stated that it had not been possible, up to the time he left Washington, to get all the domestic areas to agree on the proposed quota legislation. He expects to be going back to Washington in about five days.

Since our last report to you there have been some rather significant developments in the quota legislation picture. The continental producing areas have finally agreed that instead of waiting for the Sugar Act to expire in 1956, now would be a good time to renew the Act. A series of meetings between the Beet people and the Louisiana and Florida representatives have produced the following agreement between these two areas.

1. Mainland Cane Area quota to be increased 90,000 tons effective January 1, 1954.
2. Beet quota to be increased 135,000 tons effective January 1, 1955.
3. A "growth formula" to be incorporated in the Act to grant all domestic producers their share of 55 percent of any increase in consumption over 8,200,000 tons.
4. The liquid sugar definition to be clarified.
5. No expiration date to be named hereafter so there will not be a specific date for the Act to expire in the future.

The growth formula would give Louisiana and Florida an annual increase of about 6% of the increase in consumption and should mean an automatic yearly increase of approximately 6,000 to 9,000 tons for Louisiana and Florida.

The Hawaiians have already agreed to this program and efforts are being made to get the Puerto Rican and the refiners to agree also.

Contact Committee Meeting June 23rd

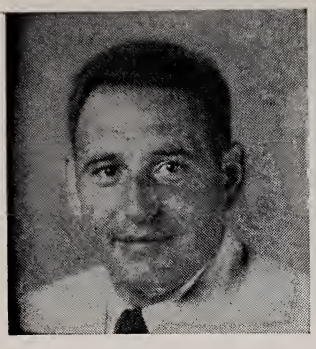
Wednesday, June 23rd is the date that has been selected by the Contact Committee of the American Sugar Cane League, as the day on which this very important Committee will hold its public meeting at the USDA Houma Experiment Station.

We are telling you about this almost a month ahead of time so that you may arrange your schedule accordingly. Make a mark right now on your calendar so you will not forget this important meeting. The date is June 23rd, and the time is 9:30 o'clock in the morning, and the place is the Houma Experiment Station. Everybody is invited and especially *you*.

Hearings Scheduled

While on the subject of meetings,

(Continued on page 270)



IN THE FIELD WITH LLOYD LAUDEN

The League Discusses Research with Dr. Tysdal

The Executive Committee of the American Sugar Cane League met at the Houma Sugar Station Friday, May 21, to officially welcome Dr. H. M. Tysdal who recently has been appointed to the position of Head of the Section of Sugar Crops with the U.S.D.A.

Before introducing Dr. Tysdal, Mr. Stephen C. Munson, member of the Executive Committee and Chairman of the Contact Committee of the American Sugar Cane League, gave a brief history of the role that the American Sugar Cane League has played since Friday, September 29, 1922 in the progress of the Louisiana sugar industry. In this history Mr. Munson pointed out that the League has always been solidly behind the research programs and mentioned the part the Contact Committee of the League plays in the research programs.

After being introduced, Dr. Tysdale made a very fine talk, pointing out that it was particularly gratifying to have men of the industry take time from their business to gather to greet him.

Dr. Tysdal emphasized the importance of cooperation in research and assured the Committee that the U.S.D.A. would continue its cooperation in all of the work with the State Station and the American Sugar Cane League. He particularly pointed out the cooperation that now exists between the agencies working at Canal Point, Florida in the sugar cane breeding program.

Mr. J. J. Munson, member of the Executive Committee of the League and President of South Coast Corporation, talked briefly about the varieties now in commercial production and emphasized that the U. S. D. A. had done much toward the progress of the Louisiana sugar cane industry. He assured Dr. Tysdal that the South Coast Corporation and the American Sugar Cane League are always willing to assist in the research program.

Dr. E. V. Abbott, of the Houma U.S.D.A. Sugar Station, told the Committee that the staff of the Houma Station would continue the fight against the newly discovered Stunting Disease.

Both Mr. J. J. Shaffer and Mr. Wallace Kemper discussed the problem of the short growing season for sugar cane in Louisiana and pointed to the many problems that Louisiana encounters.

Mr. F. Evans Farwell, of Milliken & Farwell, told Dr. Tysdal that the industry was grateful for the new varieties now in commercial production. He also said that although the new varieties are better than the old ones, yields have not gone up in proportion and that research should be directed to find the answer to why increased yields have not followed.

Mr. James H. Thibaut talked briefly on the industry's need for cultural studies and also mentioned that there is need for research that will point toward reduction of labor.

Mr. Elliott Jones, of Southdown

(Continued on page 269)

IN WASHINGTON WITH JOE FERRIS

Stronger State Labor Laws

Greater leeway for State labor laws is in the making. The National Labor Relations Board is making studies which may produce a new policy on Federal-State jurisdiction in labor matters. As a result of these studies, areas, in which States could handle labor disputes without any NLRB interference, would be enlarged. The studies, which may take several months, are understood to involve the probable effect on retail trade, public utilities and certain types of manufacturers.

The new Supreme Court ruling which upheld NLRB power to vacate a State injunction against a union where the Board had taken jurisdiction is very much in line with the Roosevelt-Truman policy which the Republicans now seek to tone down. Despite the defeat of proposed Taft-Hartley revisions, prospects look good for NLRB to lose some of its authority.

War Plans

Washington officialdom is busy planning for war. The chances are 50-50 that we will become involved in Indochina soon. Several sets of plans have been made for some time, ready for instant use under any circumstances. Officials say they don't fully expect war but they fear one is possible and are making every effort to be prepared for any eventuality.

President Eisenhower is expected to ask Congress for power to freeze prices, wages, rents, credits and inventory controls. Discretion as to whether to freeze would be vested in the President. The length of time for the freeze would be limited by law, probably to 90 days, during which time Congress would decide on continuing controls. The Administration probably will time its request for temporary control powers with the announcement of the new treaty for collective defense of South East Asia on which Secretary of State Dulles is working.

Pre-arranged work plans do not contemplate consumer rationing except in event of an all-out war. But official attitude is strong for rigid control of prices, wages, and salaries. On rents, there would be first a freeze, followed by a system of flexible controls at the first sign of increase without good justification.

Officials would like authority to control consumer credit in a war crisis, if necessary. But efforts would first be made to use indirect controls through fiscal and monetary policies.

The Government already has authority to control raw materials, inventories, and to prevent hoarding. New Power probably will be asked for plant seizure.

The Federal Reserve Board is already stockpiling reserves of paper currency in case of a surprise attack, but officials point out that this is an ordinary precaution and is not significant as far as a "little war" in Indochina is concerned. Stockpiles of materials will be stepped up fast if the U. S. gets involved in the shooting in Indochina.

Top control officer is Arthur Flemming, often referred to as a

(Continued on page 270)

THE MECHANICS OF PRICING LOUISIANA SUGARS

By A. W. Dykers, Executive Secretary of the Louisiana Sugar Exchange, Inc.

There are 54 sugar mills in Louisiana. Most of these mills produce raw sugar exclusively, but a few also produce various grades of direct consumption sugars. Included in the 54 mills are four vegetable carbon refineries that are operated in conjunction with raw sugar mills. These refineries are South Coast, Southdown, Sterling and Supreme and are known locally as the Four S's.

The sugar produced in Louisiana falls into two general classifications, i.e., raw sugars and direct consumption sugars.

The "raw sugars" are the sugars that are shipped to a refinery to be refined into standard granulated sugar.

The "direct consumption" sugars are the sugars that are sold directly to the consumer. Included in this group are grades known as Clarifieds, Turbinadoes, Plantation Granulated, Washed Raws and Crystals and even some raws that are sold directly to meat packers and tobacco curing firms.

Sugars in the "direct consumption" group are usually sold at so many points under the prevailing price of standard cane granulated sugar or at so many points over the prevailing price of raw cane sugar, depending on the grade. In territories where these sugars compete with beet sugar, the discount is under the prevailing price of beet refined sugar. The law of supply and demand is the controlling factor governing the size of the discount, or the mark up, and it is, therefore, not possible to name any set figures.

The refineries known as the Four S's produce a standard granulated sugar that is comparable to, and competes with, the granulated sugar produced by the big bonechar refineries and with refined beet sugar.

Standard granulated sugar is sold by the refiners to wholesalers presumably at prices that are publicly announced. The basic price announced by a refiner is known as his "list" price. Whether the refiner actually received this price depends to a large degree on competition. If it is necessary to shade a list price to meet competition, this is done. However, for the purpose of this report we will say that refined sugar is sold to wholesalers at a price that is publicly announced by the individual refiners.

The entire economy of the Louisiana Sugar Industry evolves around the price of raw sugar and since the great bulk of the Louisiana sugar mills produce raw sugar, the marketing of this grade of sugar is of most interest.

The Industry operates under what is known as a "Fair Price Determination". This is a contract drawn up by the Sugar Branch of the United States Department of Agriculture under the provisions of the Federal Sugar Act. It provides for the purchase of cane by the mills from the cane grower at a price that is based on the price of raw sugar.

Specifically the Fair Price Contract states that "the basic price for standard sugarcane shall be not less than $1.06 per ton for each one cent per pound of the average price of raw sugar", as quoted by the Louisiana Sugar Exchange, Inc., and that settlements shall be made in accordance with either of the following agreed upon options:

1. The simple average of the daily price of raw sugar for the week in which sugar cane is delivered, or

2. The simple average of the weekly prices of raw sugar as quoted for the "pricing period"

SUGAR MARKET STATISTICS THROUGH MAY 28, 1954

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.08	6.20	6.40
QUOTA RAWS DELIVERED NEW ORLEANS	5.98	6.17	6.39
WORLD SPOT RAWS (In Cuba)	3.31	3.35	3.60

SUGAR FUTURES No. 6
(Closing Bid Prices)

	July	Sept.	Nov.	Mch.
Today	5.62	5.71	5.71	5.48
1 Month Ago	5.74	5.77	5.78	5.54
1 Year Ago	5.92	5.97	5.95	5.58

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	347,630 bags	1,087,577 bags
Godchaux	175,531 bags	724,921 bags
Colonial	215,404 bags	852,445 bags
Henderson	50,376 bags	247,841 bags
Southdown	58,862 bags	58,862 bags
South Coast	88,045 bags	314,303 bags
Sterling	None	None
Supreme	113,297 bags	380,086 bags
Totals	1,049,145 bags	3,766,035 bags

as defined in the Fair Price Determination. This "pricing period" usually begins about the middle of October and runs from sixteen to twenty weeks.

Most of the cane bought by the mills is purchased under season's average contracts and, in order to eliminate as much speculation as possible, most of the mills endeavor to sell the raw sugar produced from this cane to the refiners at the season's average price. The usual selling procedure, therefore, is to try to contract for the entire output of a mill at the average price for the season.

There are, however, other types of contracts. Some contracts call for settlement at the average price of a particular month, or the average price of a combination of weeks or months that are not the same as the dates of the official pricing period. Occasionally a contract will allow the seller or perhaps the buyer to call for settlement at the price prevailing on the day he decides to "call", and now and then raw sugar will be sold on a "price date of arrival" basis, which means that the sugars are to be paid for at the price quoted by the Exchange on the day they are received by the refinery.

On rare occasions a mill may sell a quantity of Louisiana raw sugar at a named price, but these "spot" transactions (see rules) have been few and far between in recent years.

The quotations used for settlement purposes are issued by the Louisiana Sugar Exchange. The Raw Sugar Quotation Committee of the Exchange uses the following rules in arriving at the delivered New Orleans quotations:

Rules Governing Sales of Louisiana Raw Sugar

Refiners — American, Godchaux, Colonial, and Henderson for Louisiana raws.

American, Godchaux, Colonial, Henderson, South Coast, Southdown, Sterling, and Supreme for offshore raws.

Terms—F.O.B. New Orleans duty paid basis.

(Continued on next page)

Quantity — Not less than 1,000 bags of Louisiana raw sugar or less than 1,000 long tons of offshore raw sugar.

Kind of Sale—Only spot sales (delivery within 35 days) covered by contract between a Louisiana raw sugar producer, or a seller of offshore raw sugar, and any one of the refiners listed above shall be considered a spot sale of raw sugar. Only sales covered by one contract shall be considered, and no re-sales from one refiner to another refiner shall be considered.

Time Limit for Sales—Sales completed before 2:00 P.M. shall be used in arriving at a price for the day. All sales completed after 2:00 P.M. shall be carried over to the following market day and included in the sales of that day. The Exchange week shall be Friday through Thursday.

Holidays — The Louisiana Sugar Exchange, Inc., shall be closed when the New York sugar market is closed.

Daily Average Prices—All daily average prices shall be the simple average of the spot sales of Louisiana raws or offshore raws to the refiners listed above on any given day. When no spot sales of Louisiana raws or offshore raws to the refiners listed above are reported on any given day the quotation for that day shall be the daily spot quotation of the New York Coffee & Sugar Exchange adjusted to a duty paid delivered New Orleans basis by using the freight rate differential from Cuba, if any, existing between New York and New Orleans as furnished by James E. Ward & Co., of New York.

Weekly Average Prices — Weekly average prices shall be established by taking the simple average of the daily quotations of this Exchange.

Average Price for the Season— The Season's average price shall be established by taking the simple average of the weekly average prices issued by this Exchange applicable to the Cane Purchase Contract Period.

Correction of Quotations — The Exchange reserves the right to adjust any erroneous quotations.

It will be noted that when no spot sales to the local refiners are recorded on any given day, the Exchange uses the spot quotation of the New York Coffee and Sugar Exchange on that day and deducts from that price the difference in freight charges from Cuba to New York and from Cuba to New Orleans. This difference in freight charges is wired each day to the Louisiana Sugar Exchange by the New York freight brokerage firm of James E. Ward & Co.

To illustrate how the use of the freight differential operates, let us assume that today there are no spot sales to the local refiners. At the close of the New York market, the Western Union "ticker" in the office of the Louisiana Sugar Exchange will report the daily spot price that has been fixed by the Raw Sugar Quotation Committee of the New York Coffee and Sugar Exchange. This price is always announced in terms of Cuban raw sugar, delivered New York. The wire from James E. Ward & Co. will advise the Louisiana Exchange how much it would cost today to ship sugar from Cuba to New York and how much it would cost to ship the same sugar to New Orleans. If the wire quotes the ocean freight rate on raw sugar to New York at say 36 cents a hundred pounds and the ocean freight rate to New Orleans on raw sugar at 34 cents a hundred pounds, the freight differential between New York and New Orleans is obviously 2 cents a hundred pounds. If the Committee of the New York Coffee and Sugar Exchange issues a spot raw sugar price equal to $6.10 a hundred pounds, duty paid, the Louisiana Sugar Exchange will deduct the freight differential, which in this example is 2 cents, from the 6.10 quotation, and quote the price of raw sugar delivered New Or-

(Continued on page 269)

CURRENT ECONOMIC PROBLEMS OF THE SUGAR INDUSTRY

By Walter Godchaux, Jr.—Vice President, Godchaux Sugars, Inc. for March 19 Meeting—Louisiana Academy of Science, Lafayette, La.

My purpose here today is to tell you something of the Current Economic Importance of the Louisiana Sugar Industry—to trace the economic and necessarily political history of the industry, and to discuss with you some of its most important present economic problems.

Last year over 300,000 acres of sugar cane, for the production of sugar, were grown in twenty parishes of Louisiana. In eleven of these parishes it is the major cash crop and source of income. According to the 1950 Agriculture Census, of 455,777 acres of cropland in these eleven parishes, 253,322 acres or 55% was sugar cane. There are 53 sugar mills in the State to grind the 6,000,000 tons of cane produced. Sugar cane is Louisiana's No. 3 Cash Crop. The value of the 1953 crop of sugar, syrup, molasses, and bagasse at the first processing level was more than $75,000,000. This contributed new wealth, derived from the sale of these products, in a trade area outside of the state. Practically all of this money will be spent in Louisiana for labor, machinery, fertilizers, and other items needed to produce and process the cane, and for family living. Much of the fertilizer used comes from plants in Louisiana, and practically all of it will, when the new ammonia plants now under construction are completed.

Besides the sugar cane growing and processing industry, the area around New Orleans is the largest sugar refining center in the country. Seven refineries in this area refine almost all the raw sugar produced in Louisiana and in 1953 over 1,000,000 tons of imported raw sugar brought in thru the port of New Orleans—more than was imported thru any other single port in the country. The value added by manufacture to this imported raw sugar, exclusive of the processing tax paid to the United States Government, of which I shall say more later, was approximately $35,000,000.

Interestingly enough, the political history of sugar in the United States, which began with the imposition of Congress of the first tariff on sugar in 1789 anti-dates by some six years the first commercial production of sugar in Louisiana by Etienne DeBoré. The sugar tariff was in effect from 1789 to 1890, over 100 years, and averaged about 2¼¢ per lb. during this period.

Although the tariff was set up for revenue, it had the effect of protecting domestic producers in Louisiana. As a result, by about 1830, the Louisiana industry had grown to significant size. The period between 1830 and the beginning of the Civil War was the Golden Age of the Louisiana Sugar Industry, during which most of the beautiful plantation houses were built. By 1850 there were over 1500 plantations, each with its own mule power sugar mill and open kettle factory. In 1861 Louisiana produced 264,000 tons of sugar. In 1864, at the end of the Civil War, the industry produced only 5900 tons and was to all intents ruined. The road back has been a hard one—beset by the ravages of plant diseases, floods and freezes, and political manipulations of the tariff.

In 1890, there was a surplus in the U. S. Treasury, and the revenue no longer being needed, the sugar tariff was repealed. However, to protect domestic producers, a 2½¢ bounty was paid them. The repeal of the tariff stimulated Cuban production by opening the U. S. market,

and hurt the Hawaiian industry, in which by this time the U. S. was interested, so badly that by 1894 the bounty system was repealed, and the sugar tariff was restored. This time the purpose was to protect the domestic industry and to put Hawaii in a preferred position so that its industry could survive.

From 1894 to 1934 the history of sugar is a sequence of stable earnings, wild prosperity, severe but short-lived depression, temporary recovery, and prolonged depression, in that order. Fundamentally, the prolonged depression which began in the 20's was due to the over supply produced in the world. Over production was stimulated partly by the tremendous improvements in methods of cultivating and processing sugar cane during the 1920's and early 30's, and partly by the desire, encouraged by World War I, of many countries, including the United States, to become self sufficient in sugar production. These countries protected their domestic industry when historically they had imported sugar. The export countries, principally Cuba, had no where to sell their sugar, and their economies suffered accordingly. The resulting low world prices, plus the fact that the United States now owned Hawaii, Puerto Rico, and the Philippines, whose sugar entered our markets duty free, all served to drive United States prices down. By 1932 the world prices were less than 1¢ per lb. and the United States price less than 3¢.

The resulting distressed condition of the industry led to a re-examination of the tariff situation by Congress, and the enactment of the Jones-Costigon Sugar Act of 1934. Although this Act has been extended, amended, and re-passed, it differed only in detail from the Sugar Act of 1948, as amended in 1951, under which we now operate.

The stated purpose of the Sugar Act is to maintain a healthy and competitive sugar industry of limited size, to assure adequate sugar supplies to consumers at reasonable prices, and to promote our general export trade.

To describe the Sugar Act to you, its administration may be broken down into six functions.

1. Each year the Secretary of Agriculture is required to determine how much sugar is needed for consumption in the United States. He does this by taking into consideration consumption of sugar in the previous year, year end inventories, population change, and demand conditions. He attempts to fix the quantity of sugar to be allowed in the United States so that a price level, fair to both consumers and producers, will prevail. For the last few years this figure has been around 8,000,000 tons.

2. The total amount of sugar is divided among domestic producing areas and foreign countries, as specified in the Act. At a quota level of 8,000,000 tons, the domestic areas supply about 55% as follows:

Domestic Beet	1,800,000 tons
Mainland Cane (La. & Fla.)	500,000 tons or 6.2%
Hawaii	1,052,000 tons
Puerto Rico	1,030,000 tons
Virgin Islands	12,000 tons
Philippines	974,000 tons or about 12%

The balance is divided by a formula in the Act between Cuba and all other foreign countries.

3. Each domestic area quota is divided among the individual processors in that area, generally on an historical basis.

4. Then the production in the area is adjusted to its marketing quota, usually by restriction of the acreage of cane to be planted, again distributed among individual producers on a generally historical basis. In using the term "producer" throughout this talk, I am referring to the grower of sugar cane from which raw sugar is produced.

5. A tax is levied on sugar for consumption in the United States, collected from the final processor,

generally the refiner. The proceeds of this tax are used to make payment to domestic producers to compensate them for reducing their production and to compensate for the difference in cost of production between our country and foreign countries. As a result of the benefit payment program, the tariff rate has been reduced to 62.5¢ per 100 lbs. on full duty sugar, and 50¢ per 100 lbs. on Cuban sugar.

6. After public hearing each year, the Secretary of Agriculture issues determinations which insure that growers, processors, and farm workers divide the returns equitably. In order to qualify for the "benefit" payments, growers who are also processors must pay the required price for a ton of cane, and growers must pay certain minimum wages to workers, and are prohibited from employing child labor. For some time the wages of sugar farm workers have been tied to the price of sugar on a sliding scale.

Now the first question you will probably ask is—what does the program cost the taxpayer and what does he get out of it? As I pointed out above, a tax of 50¢ per 100 lbs. is levied on sugar for consumption, and of course this tax is passed on to consumers. Since per capita consumption is about 100 lbs. per year, the Sugar Act costs the average citizen about 50¢ per year. But this is not quite true, since collections from the tax now exceed payments by some 17 million dollars annually. To the consumer, therefore, the program has put money in the treasury and he has gotten a basic commodity at a stable and relatively cheap price.

In regard to price, the Sugar Act has certainly not reacted to the disproportionate advantage of the producers nor to the detriment of the consumer. Sugar is still by far the cheapest energy food available. The price of sugar is now about 160% of the average during 1935-1939, whereas the price index of all other foods is about 230% of the 1935-1939 average. On the basis of the cost of living, or any other basis generally used to determine fair prices, now, raw sugar should sell at about 7½¢ per lb. instead of 6-6½¢ as at present. To put it another way—the Monthly Labor Review of the U. S. Department of Agriculture for July, 1953 shows how little earning time is required by American workers to purchase sugar as compared with other commodities. For example, in 1915 it required 15.9 minutes of the time of the average American worker to earn one lb. of sugar while in 1952 it required only 3.7 minutes to earn the same lb. For a dozen eggs it required 26 minutes of labor in 1915, while in 1952 it still required 23 minutes; a pound of round steak in 1915—62 minutes, in 1952—43 minutes. Of a list of major commodities, only rayon clothing shows a decline in working time needed to purchase it as great as sugar, and rayon in 1915 was a new commodity, high in price. In fact, the trend of sugar prices as compared to all other food prices has shown a steady decline since 1860.

This leads me to two of the basic problems confronting the Louisiana industry today—the need for more marketing quota and the low price of sugar relative to other commodities. In describing the Sugar Act, I mentioned that Louisiana and Florida, the mainland cane area, are grouped together for their marketing allotment, now fixed at 500,000 tons of sugar per year. While the production of other domestic areas has increased only slightly, for the last two years the mainland cane area has produced substantially more than 600,000 tons of sugar, and this, I particularly want to point out, not as a result of increased acreage planting. Our increase has rather been due to increased yield and efficiency in the production of sugar—the concrete result of the research program which Mr. Dugas has told you about, and the technological improvements Mr. Meade

has mentioned. In 1953, for the first time since the war, marketing quotas were reinstated and Louisiana and Florida had on hand 190,000 tons of over quota sugar which had to be carried over into this year to be marketed. Acreage has been curtailed about 8% for 1954, but unless the quota is increased to about 600,000 tons far more drastic reduction, up to 25%, of our acreage will have to be imposed for 1955. With low prices for sugar, already out of line with prices producers must pay for labor and supplies, a reduced production by increasing overhead costs will cause a disasterous situation for the industry. Since the Sugar Act of 1948 became law, annual consumption has increased more than 1,000,000 tons. In 1951 the law was amended to allow Puerto Rico and the Virgin Islands to share in this increase to the extent of 176,000 tons. A 100,000 ton increase in quota granted Louisiana and Florida at this time would be less than the amount needed to satisfy increased consumption resulting from one year's population increase. It should be remembered that only half our sugar needs are supplied by domestic areas, and only 28% by continental producers. Our continental production has saved us from shortages and excessive prices in wartime. The fact that we obtain substantial amounts of sugar from numerous widely separated areas has prevented situations in sugar, such as now prevail in coffee—where crop failure in the one area of supply has sent prices skyrocketting.

The low relative prices for sugar present another problem to the industry—putting it at a definite disadvantage with other industries, especially from the standpoint of competing for labor. Despite a vast reduction in labor requirements thru the introduction of mechanical harvesting, it still requires about 9 man hours of labor to produce a ton of sugar cane. According to data published by the Louisiana State University Agricultural Experiment Station in the "Louisiana Sugar Cane Cost Studies" series, in the period 1945-1949 direct labor costs accounted for 53% of the total direct cost of growing and harvesting sugar cane. While wages paid to sugar cane workers are low in comparison to those paid by industry, they compare favorably with wages paid to other agricultural workers. Sugar cane workers are the only agricultural laborers whose wages, and other prerequisities, which have never been valued, such as housing, are regulated by the Government. A continuing effort to develop further labor saving machinery, coupled with an increased price for sugar will be required to permit the industry to successfully compete with the increasing industrial demand for labor in our area. One such program is now under way, sponsored by the American Sugar Cane League, the industry association, and the Federal Government, aimed at developing a mechanical planter. Whereas before mechanical harvesting was introduced the maximum labor requirement on sugar farms was during the harvesting season, it now occurs during the planting season. More labor is required to plant sugar cane than is needed at any other time during the year.

To summarize—The Louisiana Sugar Industry's basic problems today are the urgent need for 1) increased marketing quota, —2) a better price, and 3) increased efficiency. These problems go hand in hand—as if the first two problems are solved, there will be more funds available for the research and experimentation needed to solve the third.

Perhaps you will say that if the problems of the sugar industry are so pressing, the lands devoted to its production should be devoted to some other crop. However, if any substantial part of the 300,000 acres devoted to sugar production were diverted to—say, rice and cattle

growing, we would only add to already pressing over production problems in other agricultural lines. Also, it is true that the cost of growing most other crops are less and therefore less money would be spent to foster the economy of the South Louisiana area where sugar cane is now grown. Furthermore, less labor is required to raise other crops, as rice and cattle, and if we did go into these crops extensively, there would be a major problem of labor displacement.

Sugar cane has been grown in Louisiana for over 150 years. Since, during all this period, no satisfactory substitute for sugar cane has been found, it is logical to assume that none exists. Any reduction in the sugar industry would constitute a serious loss to an important segment of our state.

MECHANICS

(Continued from page 264)

leans at $6.08 per hundred pounds.

The weekly pricing period in Louisiana begins on Friday and ends on Thursday. The Thursday closing date is used to make it possible for the mills to make weekly payments to their growers either on Friday or Saturday.

The Raw Sugar Quotation Committee of the Louisiana Sugar Exchange meets in the office of the Exchange at 3 P.M. each Thursday afternoon and reviews the quotations posted for each day of the week. If these quotations are found to be in order, the Committee will fix the average price for the week by adding the daily quotations and dividing by the number of days used. The resulting figure, which is the simple average of the daily prices, is called the "weekly average price".

On the last Thursday of the pricing period the Committee will also issue the average price for the entire season arriving at this by adding the weekly average prices and dividing the resulting sum by the number of weeks in the pricing period. This final figure is known as the "Season's Average Price".

Since the Louisiana sugar industry operates under the Sugar Act, the Secretary of Agriculture must approve all average prices issued by the Louisiana Sugar Exchange before these prices become official for cane settlement purposes. This approval has always been granted.

IN THE FIELD

(Continued from page 260)

Sugars, Houma, Louisiana, discussed the cane varieties and the new Stunting Disease and gave his opinion on the damage this disease could possibly be causing.

Mr. A. H. Feske was asked why yields had increased on Orange Grove Plantation, New Iberia, Louisiana, over the past few years. Mr. Feske answered by saying that he did not exactly know, but he said that he used good cover crops and new varieties and the yields had been increased.

Mr. L. A. Borne reported that he

(Continued on next page)

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always averaged 30 tons or more of cane per acre. He attributed this good yield to new varieties, planting plenty seed cane per acre, heavy fertilization, and good drainage by turtle backing or crowning.

The writer told Dr. Tysdal of the work the League is doing in cooperation with the U. S. D. A. and the Louisiana Agricultural Experiment Station in treating canes against Stunting Disease. The writer also brought out that there was a need for the introduction of new germ plasm in the breeding program.

Mr. Gilbert Durbin, Manager of the League, impressed Dr. Tysdal with the need of increased yields for the future and stated that unless cane yields can be increased to about 26 to 28 tons per acre within the next 10 to 15 years, the Louisiana sugar cane industry will continue to be in trouble.

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IN WASHINGTON

(Continued from page 261)

"practical minded, academic man", President of Ohio's Wesleyan University. His lieutenant is G. J. Sherrard, New England hotel man, who thinks controls must be tough if they are to be successful. Already employed is a skeleton force which could be rapidly expanded in time of emergency.

UP FRONT

(Continued from page 259)

we understand that the Sugar Branch has selected Thursday, July 8th as the date on which the *Proportionate Shares Hearing* will be held in Louisiana. The time and

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place for this meeting has not been definitely fixed as yet but our guess is that the meeting place will be the Ball Room of the Monteleone Hotel in New Orleans at about ten o'clock in the morning. We will keep you posted, but it would be a good idea to mark July 8th on your calendar, also.

And, while you are marking up that calendar, put a ring around July 21st. That's the date of the *Wage-Price Hearing*. We do not have the official notice of this meeting either but the chances are it will be held in the Grand Theater, in Thibodaux, and start at half past nine in the morning.

The Right To Work

We know we don't have to tell you that there is a big debate now in progress in Baton Rouge on Right To Work legislation. This fact has been publicized rather thoroughly by the labor union leaders who are bitterly opposing a law that would simply give every worker the privilege of deciding for himself whether he should or should not belong to a labor union.

Most of you have probably read the ridiculous claims about forced membership in the American Sugar Cane League, and now we see by a big labor union ad in the papers that all us sugarcane folks are "rich sugarcane planters".

We also see by the papers that the Agricultural Workers Union has been found guilty by the Federal District Court in New Orleans of violating the anti-trust laws and that Henry (alias Hank) Hassiwar has been fined $1,000 and given a nine month suspended prison sentence. This is the same Henry E. (alias Hank) Hassiwar who got so many sugar cane field workers into a peck of trouble last fall. He was sentenced for the part he played in the strong-arm tactics employed by his union in the strawberry belt a couple of years ago. The report in the paper says that his prison term was suspended "provided the defendant does not violate any law within the one year probation period".

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THE SUGAR BULLETIN

. 32—No. 18 JUNE 15, 1954

cial Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

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THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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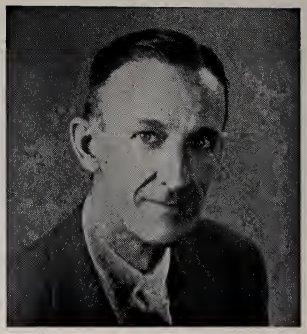
THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS



Sugar Legislation

Reports from Washington indicate that the State Department is resisting the present efforts to amend the Sugar Act. It is almost unbelievable that this Department of our Government is refusing to co-operate with the domestic producers of cane and beet sugar.

The present agreement among the domestic producers, in which the refiners have concurred, is based entirely on a *future* increase in the consumption of sugar in the United States. It takes nothing away from any foreign country and it is hard to understand why the State Department should feel called on to oppose it.

We are still old fashioned enough to believe that home folks come first but in this case we are not even asking for this time honored privilege. Except for the increase granted to Puerto Rico and the Virgin Islands in 1953, Cuba and other foreign countries have been given all of the increases in sugar consumption in every year since, and including, 1948. The proposed amendment to the Sugar Act would give increases in consumption during the next two years to the mainland cane and the mainland beet sugar areas and all we are actually asking for is permission to "eat at the second table". Apparently Cuba and her friends in the State Department do not want us to do even that.

In passing it is interesting to note that Cuba is rapidly increasing her rice acreage under a quota system that limits the amount of rice that Louisiana producers may ship to that country.

Acreage Hearing July 8th

The Sugar Branch has officially announced that the *Proportionate Shares Acres Hearing* will be held in New Orleans on Thursday, July 8th beginning at 10 o'clock in the morning. The official notice of this hearing is printed in this issue of The Sugar Bulletin beginning on page 279.

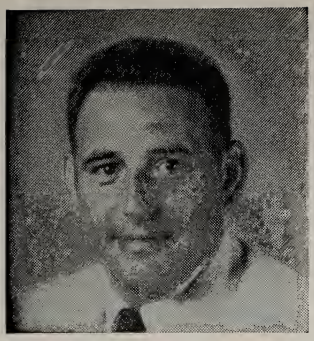
Your attention is especially called to the place where the Hearing will be conducted. It is the Auditorium of the International House which is on the third floor of the International Building, 611 Gravier St., New Orleans.

River Control

We are pleased to be able to report that the Honorable George A. Dondero, who heads the very important Public Works Committee of the U. S. House of Representatives, has changed his mind about the immediate necessity of beginning work on the Mississippi River control project and has announced his wholehearted support of the project.

Testifying at a hearing before the House Public Works Committee in Washington on May 27th, Mr. Elliot Jones, representing the American Sugar Cane League, told the Committee that if the Mississippi River is allowed to change its course and flow through the Atchafalaya basin three-fourths of the Louisiana sugar industry will be destroyed. He said that more than 300,000 acres of

(Continued on page 285)



IN THE FIELD WITH LLOYD LAUDEN

Contact Committee Meeting
Wednesday, June 23, 1954

All sugar cane farmers are urged to take a day off Wednesday, June 23, in order to attend the Annual Meeting of the Contact Committee of the American Sugar Cane League with the Scientists of the U. S. D. A. Sugar Station of Houma, La. The meeting will take place on the U. S. D. A. Houma Sugar Station located near the Southdown Sugar Factory in Houma, La., and will begin at 9:30 in the morning.

At both the morning and afternoon sessions, the scientists working on sugar cane for the benefit of sugar farmers will discuss the research work done last year and tell of the planned work for the coming year.

Highlights of the meeting will be reports on the new varieties, fertilzer trials, the new Stunting Disease, Sugar Cane Borer Control, a new borer parasite, chemical studies, milling and clarification studies, and the experimental Harvester-Cleaner-Loader combination.

An important matter on the agenda will be the report from the Sub-Committee On Varieties to the Contact Committee. This Sub-Committee will meet with the scientists of Louisiana State University and the United States Department of Agriculture before the Houma meeting to discuss the unreleased canes now being increased on Secondary Stations. At present there are four unreleased varieties on the Secondary Increase Stations. The most promising of the four varieties is NCo 310. Last year the Sub-Committee On Varieties recommended to the Contact Committee that Secondary Increase Stations increase NCo 310 as rapidly as possible. The Committee felt, at that time, that NCo 310 had commercial possibilities and, therefore, urged Secondary Increase Stations to make an all out attempt to increase this cane as rapidly as possible in order to assure an adequate supply of seed cane for distribution if the results of the test fields continued to prove this cane to be outstanding.

This Sub-Committee will review the earlier data, consider the data of the past year, and report their findings and recommendations to the Contact Committee for approval. There is a possibility that a mechanical cane planter will be discussed by Mr. R. M. Ramp of the U. S. D. A. Sugar Station at the Houma meeting. A recent letter to us from Mr. Ramp indicated that the mechanical Planter being developed at the Houma Station is in the construction stage and will be ready this year for summer planting.

There will be many interesting questions arising from the reports given. Sugar cane farmers should attend this meeting to hear the most up-to-date information on the many subjects that will be discussed pertaining to the crop they grow.

Come out, meet farmers from other areas, trade ideas and meet the men working for you in sugar cane research.

IN WASHINGTON WITH JOE FERRIS

The More The Merrier

The industrial users have climbed aboard the legislative bandwagon and are loudly clamoring for enactment of a bill (H.R. 9394) to amend the Sugar Act of 1948, introduced by Representative Sheehan from the candy district of Illinois.

The bill would emasculate the Sugar Act. It would amend Section 201 which sets forth the manner in which the Secretary of Agriculture shall make his estimate of sugar consumption, and would provide a floor of 75 percent and a ceiling of 90 percent of parity for producers of sugar beets and sugarcane.

The professional tom tom beaters for the industrial users are continually seeking to abolish the Sugar Act. They say if there were no Sugar Act, they could purchase sugar on the world market at the prevailing price of 3.32c. They completely forget that tragic chapter in sugar history which chronicles the "dance of the millions" when industrial users and housewives of America had to pay more than 20 cents a pound for Cuban sugar.

Some of the more farsighted industrial users admit that they really don't want to abolish the Sugar Act but their gum-beating henchmen are busy making another abortive attempt to earn their fees.

No Rate Reduction

Information has been received that the Southern Railroad Lines have declined the proposal for reduced freight rates on adulterated sugar intended for stock feed.

This proposal was Case No. 5595 before the Southern Ports Foreign Freight Committee and covered the request for reduced freight rates on adulterated Cuban sugar for stock feed from the Port of New Orleans to feed mixing centers in the middle west.

Beet Hearing Reopened

The Sugar Division of the U. S. Department of Agriculture has announced the reopening of the hearing on 1954 marketing allotments for continental sugar beets. Previously a hearing on this subject was held in Chicago in January of this year.

The Department issued the proposed allotments on April 5th but so much opposition to the allotments developed that the Government decided to re-open the case, and on June 24th will receive further oral arguments.

Sugar is used as a raw material in more than 87 industries.

* * *

Sugar has more than five hundred non-food commercial uses.

* * *

A pound of sugar contains 1794 calories.

* * *

It takes 900 pounds of sugar to produce the explosives to fire one round from a modern battleship's sixteen-inch gun.

* * *

Our basic fuels, coal and petroleum, were originally sugar created in the leaves of plants millions of years ago.

HEARING ON 1955 MAINLAND SUGARCANE ACREAGE ALLOTMENTS JULY 8th

(*Official Release*)

The U. S. Department of Agriculture announced on June 9th that an informal public hearing will be held on July 8, 1954, for the purpose of receiving information and recommendations with respect to establishing farm proportionate shares (acreage allotments) for the 1955 sugarcane crop in the Mainland Sugarcane Area (Louisiana and Florida) as required by the Sugar Act of 1948, as amended. This hearing will begin at 10 a.m. in the International House, 611 Gravier Street, New Orleans, La.

Production from the 1952 and 1953 crops in the Mainland Sugarcane Area was 607,000 and 630,000 tons, respectively. The 1954 crop may exceed slightly the quota level of 500,000 tons. Therefore, restrictions must be continued for the 1955 crop to keep sugar production in line with the quota and carryover requirements.

To provide a basis for discussion at the hearing, the Department suggests that the 1955-crop determination repeat in large part the provisions issued for the 1954 crop. Farm bases would be continued unchanged. Minimum shares of 10 acres would be established for new and small farms, while the shares for farms with bases between 10 and 25 acres generally would coincide with the bases.

Although the 1954 shares for farms with bases in excess of 25 acres generally were established at 90 percent of such bases, the adjustment factor to be applied for 1955 will be announced in a determination prior to the planting season on the basis of indicated production requirements. A change may also be made in the minimum share for each large farm (established for 1954 at 80 percent of the 1953 acreage) corresponding to any change in the adjustment factor applicable to farms with bases in excess of 25 acres.

For the 1954 crop, a base was established for each farm on which there was acreage in any of the crop years 1949 through 1953 by adding (1) 50 percent of the largest acreage on the farm in any one of the crop years within the base period as a measure of "ability to produce", and (2) 12.5 percent of the total acreage on the farm for the other four years within the base period, as a measure of "past production".

The shares effective for the 1954 crop include seed cane. Testimony at the hearing on July 8 is desired on the advisability of excluding seed cane from 1955-crop shares.

Interested persons are also invited to present their views concerning the total acreage which should be allotted for 1955, taking into consideration freeze damage and other contingencies.

Briefs may be presented at the hearing (in original and three copies) or mailed to the Director of the Sugar Division, Commodity Stabilization Service, U. S. Department of Agriculture, Washington 25, D. C., so as to be received not later than July 18, 1954.

In considering the 1955 program, industry representatives may be interested in preliminary 1954-crop data, as follows:

For new farms, the proportionate shares issued total 220 acres and the acreage of sugarcane within such shares is 205; for old farms with 10-acre shares, the shares issued total 12,770 acres and the acreage within such shares is 6,431; for farms with shares of 10.1 to 25 acres, the shares issued total 16,526 acres and the acreage within such

(Continued on page 285)

WHY PIECE WORK?

By R. J. LeBlanc, American Society of Sugarcane Technologists, Meeting of June 10, 1954

There has been quite a bit of interest evidenced lately regarding the piece rate system we have established in connection with our field workers and at the request of Mr. Richard McCarthy, Jr., Chairman of the Society's Agricultural Section, I have prepared a paper on this subject to be presented to you today.

This system was first instituted in our field operations two years ago, during the planting of the 1952 crop. We also carried it over into our 1952 harvesting operations on a modified basis in connection with crossing cane and salvaging or cleaning behind the harvesting machines. It was the result of studies we made in an effort to encourage labor to remain on our farms, for as you all know, during the past several years field labor has been moving away from farms in increasing numbers into local industries.

We felt that the establishment of such a system would not only provide an incentive for our laborers to accomplish more, and be compensated according, during their nine hour day's work, but at the same time it would also allow us to complete our required work schedules with the fewer people living on the farm.

The results of the piece work rates on planting cane and the modified piece work rates in our harvesting operations for the 1952 crop appeared to us to be successful enough so that for the 1953 season we established piece work rates for all of our planting and harvesting operations.

It should be clearly understood that "piece work" is quite different from "task work", which latter system is also used extensively in sugar cane operations. On a "piece work" basis, a worker must put in a full day's work and if he accomplishes more than the established requirements for a day's work, he is paid extra wages above his regular day's pay for the additional amount of work accomplished during that work day. Under task work rates, a worker is given a certain amount of work to perform, after which his day's work is done except that the task should be such that the worker must accomplish it at least within the work day.

In our experience, we found during the past two years that the number of workers required when piece work is used is considerably less than the labor requirements for a day or "task work" basis. Because our laborers work nine hours a day and that under our piece work system they are given an incentive by which they can earn extra pay if more than a regular day's work is accomplished, we have been able to reduce our labor requirements both for planting and harvesting operations. I might add that we have found a very favorable attitude existing among our laborers who have been getting higher wages commensurate with their production or performance record. We are planning to use this same system again this year, improving it wherever possible.

row. Past experience shows that

In operating our planting schedule on the piece work basis, the key to the amount of planting done by any set or crew is the actual number of men riding the carts for the purpose of throwing out the cane and those who fix the cane in the one acre planted per day per man in this key group is a reasonable rate and this has been established as the piece work basis. Following is a hypothetical case showing the actual operation of this piece rate based on a combined group operation consisting of several plantations, where 800 to 1,000 acres of

Categories	Men Used	Example Rate	Total Cost	% Share Each Operation	Cost p/sq. Acre	Piece Rate per man p/sq. acre
Two tractors opening land	2	$5.04	$ 10.08	4.29	$ .336	$ .1680
Ten tractors hauling seed cane	10	5.04	50.40	21.44	1.68	.1680
Two tractors covering and packing	2	5.04	10.08	4.29	.336	.1680
One Harvester (2 men harvester)	2	5.75	11.50	4.89	.383	.1915
One Loader (1 man loader)	1	5.75	5.75	2.44	.192	.1916
Loader scrappers	1	3.87	3.87	1.65	.129	.1290
Two drain plows	2	3.97	7.94	3.38	.265	.1325
Fixing and covering row ends	5	3.87	19.35	8.23	.645	.1290
Planters (20 men on carts & 10 men in rows	30	3.87	116.10	49.39	3.87	.1290
TOTAL	55		$235.07	100.00	$7.84	

cane planting are involved and where five sets or crews planting two rows each are used. These calculations are figured on each set or crew planting six acres per nine hour day, or a total of thirty acres per day.

In this schedule all of the workers would be paid the extra payment according to the number of acres each particular set planted above its requirements.

Our experience so far as shown that under the incentive or piece rate system our workers can and have earned anywhere from 25% to 75% more than they would otherwise normally receive for a regular nine hour day's planting work. Likewise our workers also found that during our harvesting operations under the piece work or incentive system they could earn more than by the previous day method and we, in turn, found that we could harvest our crop with little or no more labor than required during our regular cultivating season. This eliminated the need of hiring extra outside help, as we had been doing in the past, plus having to assume all the problems involving transportation, lodging and so forth that go with the employment of such workers.

In instituting the piece rate system on a per acre basis for all workers in the cutting operation, we studied past performance records and used the average daily performance as the cutting requirement in establishing piece rates for this operation. These piece rates are:

Operation	Piece Rate Basis
Harvester Operator	$1.00 per sq. acre
Harvester Blademan	.75 per sq. acre
Salvaging after	3.00 per sq. acre
Crossing havesters	.20 per lin. acre
Cutting ends	.50 per lin. acre

On loading and hauling operations, we found that the crews covered an average of thirteen acres per nine hour day; so, extra bonus pay was paid to these workers after they had covered thirteen acres a day. This extra pay was:

Operation	Piece Rate Basis
Loader and derrick operators	$ .06 per acre bonus
Tractor operators	.05 per acre bonus
All others involved	.04 per acre bonus

As in the case of planting operations, we also intend to continue the piece work system during this coming year's harvesting operations and to improve it, wherever possible.

I believe this about covers the subject, but if any of you gentlemen have any questions to ask, I will gladly attempt to answer them.

THE HURRYCANE HARVESTER, 1953 MODEL

By B. C. Thompson, Meeting of Sugarcane Technologists Meeting of June 10, 1954

When Mr. McCarthy asked me to tell you something about our Harvester-Cleaner-Loader I felt very reluctant to do so. Not because the machines had not been successful during the last season, but primarily because many facts gathered did not point to a completely satisfactory operation.

This Harvester - Cleaner - Loader operated in many ways better than was expected. The trash content was completely satisfactory. The loading of the cane directly into wagons not only presented no major difficulties but put on the wagons about as heavy a load as is done with the cane loader. The major difficulty we experienced was in attaining satisfactory capacity over a nine hour day. It is true that the prime reason for this lack of capacity was due largely to conditions beyond our control and in no way related to any failure of the Harvester itself. It is obvious that if any machine is to attain its maximum capacity it must operate continuously or with a minimum of interruptions. The capacity of this Harvester - Cleaner - Loader depends in large measure upon supplying it with adequate tractors and wagons so that the harvester operation can continue without interruption. Among other things we found that it took as long for the tractor driver to prepare his cane slings in the empty wagons and fasten them after the wagon was loaded as it did to fill the wagons with cane. Also the general practice on many plantations is to assign so many tractors and wagons to each harvester. This is not a satisfactory arrangement with the Harvester-Cleaner-Loader as the number of tractors and wagons assigned to this unit must be increased or decreased whenever the hauling distance becomes longer or shorter otherwise on a short haul there will be more wagons than needed and on a long haul the harvester may be stopped a large part of the day waiting for wagons to return.

There is no valid reason why the above mentioned shortcomings could not be satisfactorily overcome if there was enough interest in so doing. Unfortunately we found an almost universal prejudice against the system of harvesting cane and loading it directly into wagons. We consider none of the reasons given for this prejudice as being entirely valid, but a fixed opinion is hard to overcome. We know that the best method possible for the harvesting of sugar cane and one that will give the greatest returns to both the farmer and factory is the one that will supply the cleanest, freshest cane. We know also that no system that does not load directly into wagons will furnish cane of maximum quality.

Be this as it may, after four years of extensive work and the expenditure of considerable money, we found a harvester of the type we are building, generally unacceptable to the industry. Therefore, we were faced with two alternatives, i.e., to put the Harvester-Cleaner-Loader in moth balls for the present or to approach it from a different angle. The latter method is the one we adopted for the coming harvesting season.

In order to allow the harvester to operate irrespective of any outside influences, it became necessary to divorce the loading into wagons from the harvester proper. The machine we have in production for the coming harvesting season will cut the cane, top and bottom, as is done with a conventional harvester. In addition it will incorporate the cleaning device so that the trash will be stripped from the cane and

will use a modification of the present piling attachment, which will place the cane back on the ground in (heap piles) instead of the conventional method of a continuous pile from one end of the row to another. Such a method will unquestionably supply more trash on the cane than would be the case if it were loaded directly into wagons. However, if we PILE the cane in the harvesting operation and thus eliminate the necessity of pushing the cane together with the loader, we will pick up with each bundle of cane only that part of dry trash lying immediately under the bundle and during muddy weather — no mud. This type of machine has never been tried in the field although nothing is new about it except putting the cane back on the ground in heap piles. We hope and believe that we can supply cane possibly 80 or 90% as good in so far as trash is concerned as could be done with the Harvester-Cleaner-Loader. In muddy weather there should be little or no mud in the cane bundle. The freshness of the cane would be completely within the power of the operator, in that no delay would be necessary after harvesting so that the cane could burn properly; it could be picked up with the loading device immediately after it had been cut.

We believe with this method we will overcome the greatest difficulty now present, i.e., delaying the harvesters through its dependence upon other devices and at the same time supply cane of satisfactory quality in so far as freshness, trash and mud are concerned.

I would welcome a very free expression of opinion and would appreciate the thinking of the Industry on this important matter, for the reason that a small business like our own cannot continue indefinitely to spend money on developments unless there is a reasonable chance of a successful outcome.

We would like to show you a film we have of our Harvester-Cleaner-Loader, that we had in operation during the 1953 season and with these machines we harvested approximately 400 acres of cane. We have no records of cost because the way the operations were carried out it was not possible for us to figure cost, neither do we have any comparisons between the cane we delivered to the sugar house with this new method as compared to the old because in most cases the fresh, clean cane was unloaded on the heap pile at the factory along with cane that had been harvested and burned in the usual manner, but we do have statements from some of the mills where such cane was delivered that there was a difference apparent on the mill floor, a difference that was noticed by the juice man and the sugar boilers. The reason this cannot be more specific is because of the way the cane was handled by not being separated from the usual plantation practices of harvesting.

I would like to call to your attention now our shredder for the cane tops. We were asked to develop a shredder for the tops, or flags, that were cut off of the cane to be ground up that nothing would be in excess of one inch in length as it was felt that in these flags was the haven for the cane borers over the winter season.

In every instance where these shredders were used and observed we had most favorable comment and while we have had no authentic reports from that agency of the University that is concerned with cane borers, we have had most favorable comment and with great hope of its effect on this evil that is costing large sums in other methods of trying to control the borers as well as the loss sustained in the cane itself. The request for new Harvesters for this coming crop have been practically 100% in their requests for Harvesters with shredders. You will notice in a film, that we will show you, another new development. A

(Continued on Page 285)

THE RIGHT TO WORK

An Editorial

Some people wonder why farmers take any stand with respect to the proposed Right-to-Work legislation.

We have often heard farmers referred to as "the backbone of the nation." Farmers are the stabilizing influence in our nation. They are conservative in their thinking and hesitate to get away from the basic concepts followed in establishing our form of government. Farmers appreciate the freedom which we have—the freedom of individuals. We in the United States have more freedom than do the people in any other country of the world, but the fact remains that we have less freedom than we had twenty-five or fifty years ago. Our freedoms are gradually being taken away from us, and that is bad.

Farmers believe in organizations. They believe they have the right to organize and that laborers have the right to organize. They also believe that *membership* in farm organizations and in labor unions should be *voluntary*. If there is any justice in denying a laboring man the right to work because he does not belong to a labor union, then why would there not be justice in denying a farmer the right to farm because he does not belong to a farm organization?

One of the opponents of the Right-to-Work legislation, according to the press, has accused the American Sugar Cane League of maintaining a closed shop. That definitely is not correct. There are approximately 8,000 sugar cane growers in Louisiana. About 7200 belong to the American Sugar Cane League. Approximately 800 Louisiana sugar cane growers are not members of the League. The American Sugar Cane League has been in existence since 1922 and carries on a wide variety of activities. We have an extensive research program. We develop new cane varieties, which are absolutely necessary to keep the sugar cane industry in business. Those farmers who are not members of the League profit from the research program and they get the new cane varieties even though they are not League members. In the past several months we have been spending considerable time in trying to convince other groups who are interested in Federal sugar legislation that we should be permitted to produce more sugar in Louisiana. If we are successful in these efforts and the efforts to convince the Congress, then the non-members of the American Sugar Cane League will profit from this accomplishment in the same manner as the members of the League. In the past several years we have been highly successful in preventing unjustifiable freight rate increases on sugar cane and sugar, which we would undoubtedly have received except for the efforts of the League. At present we have a freight rate case in Federal Court, a case that was fought before the Louisiana Public Service Commission, the Interstate Commerce Commission, and which we have now taken to Court. In all of these freight rate cases we have been fighting the battles of the non-members as well as the members.

Union leaders probably think we are crazy. They probably think we should force the free riders, as they call them, to pay their fair share of the cost of keeping the Louisiana sugar industry going. In one way it is not fair for the small minority group of non-members to be given a free ride but there is a basic principle involved—the principle of freedom of choice. We believe there is not a single Louisiana sugar cane grower who would be in favor of forcing any sugar cane grower to join the American Sugar Cane League. No member wants to force

(Continued on next page)

EDITORIAL

a non-member to join because the member wishes to reserve for himself the right to withdraw from the organization any time he wishes. The American Sugar Cane League is a better organization than it would be if membership was compulsory. The fact that any member can withdraw his membership any time he chooses causes that member to have much greater influence in determining the policies and activities of the League than he would have if he were forced to join and could not withdraw his membership. Sure we have an Executive Committee and many other committees which determine policy and the actual work of the organization, but all of these committees are constantly aware of the fact that the decisions they make must be to the liking of the rank and file members of the organization. If at any time the American Sugar Cane League pursues policies or activities which are contrary to the wishes of its members, then the League will no longer have members.

We honestly and sincerely believe that labor unions would be much better organizations if membership were voluntary. We readily admit that the union *leaders* would have less power, but that power would automatically be *transferred* to the *membership* of the union. The union leader would be put in exactly the same position that the Executive Committee and employees of the American Sugar Cane League are in. We are constantly striving to make our organization serve the Louisiana sugar industry even better than it is presently doing. We are anxious to continue increasing our membership year after year by improving our record of service. We suggest that unions get their members in the same way.

Farmers favor Right - to - Work legislation because it is needed to guarantee the laboring man one of his basic rights. Farmers know that if a basic right is denied one group then the basic rights of all groups are in jeopardy.

Farmers favor Right - to - Work legislation for another reason. They are concerned about the fear complex which many of our citizens have—fear to express their opinions on labor matters because of possible retaliation by the labor leaders. We are justifiably disturbed that union members are afraid to criticize their leaders because they may lose their right to work. We deplore the fact that so many business men are afraid to express an opinion on labor matters because of retaliation by the union bosses. We are proud to say that farmers are not afraid to express their opinions.

HARVESTER

(Continued from page 283)

high clearance tractor for cultivating such acreage of your crop that might have been neglected due to weather conditions and aside from this, this tractor with sufficient clearance equipped with a duster as well as a spraying unit did very effective work in dusting of borers for the handling of herbicides and for ditch bank mowing at lay-by time.

We feel that there is a definite place in our industry for this high clearance tractor.

HEARING

(Continued from page 279)

shares is 15,246; for farms with shares over 25 acres, the bases total 328,457 acres, the shares issued total 300,135 acres, and the acreage within such shares is 293,109. The acres within the proportionate shares issued for all farms total 314,991.

UP FRONT

(Continued from page 276)

sugarcane farm lands would be flooded and that capital losses alone would amount to more than $253,000,000. The fact that Mr. Dondero has been persuaded to change his mind regarding the urgency of im-

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mediate action to prevent the diversion of the River is a very encouraging development.

Honor Dr. George P. Meade

It is with pleasure that we note that Dr. George P. Meade, of Gramercy, La., has been presented an honorary Doctor of Science Degree by Louisiana State University.

Dr. Meade is one of the foremost sugar technicians of our time and richly deserves the high honor that has been bestowed upon him by the University of his adopted State.

The Citation by L. S. U., which was presented at the commencement exercises held in Baton Rouge on May 29th, reads as follows:

"In conferring upon you, George Peterkin Meade, the degree of Doctor of Science, the Louisiana State University and Agricultural and Mechanical College gives recognition to your many and valuable contributions to the literature and practice of cane sugar manufacture and refining. It is particularly appropriate in view of the interest and efforts of the University in this field as attested by the long history and outstanding reputation of the Audubon Sugar School.

Your "Cane Sugar Handbook," which is now in its eighth edition, has been a standard reference work

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in the cane sugar industry for more than a quarter century. Its publication in Spanish and Japanese as well as English is a further indication of its widespread acceptance.

Your work in pioneering the use of pH control made possible the commercial use of improvements in the refining of cane sugar. The methods you pioneered against general resistance by the industry are now accepted as standard by the same industry.

With technical ability you have combined the facility to report your experiences and make them generally available to your colleagues by your numerous publications. Your service as a member and officer of several national and international committees concerned with sugar analysis and research has been a further recognition of your ability and willingness to share with others your knowledge.

Sugar is not the only field in which you have achieved distinction. Note must also be taken of your work as a naturalist and your publications in the field of herpetology.

Along with your accomplishments as an engineer and scientist you have found time to be of great service to your community."

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* * *

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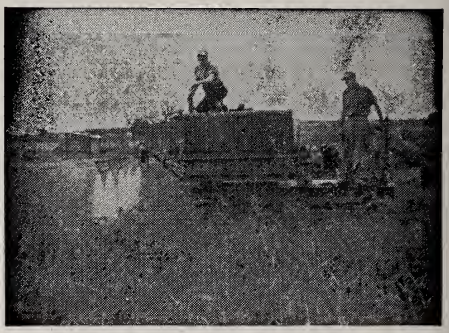

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THE SUGAR BULLETIN

Vol. 32—No. 19 JULY 1, 1954

Official Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

Quota Legislation

There will be no increase in the Mainland Cane (Louisiana and Florida) sugar quota this year. Opposition by the State Department and the Department of Agriculture has killed all chances of having quota legislation considered at this session of Congress and we will have to wait until later on to try to obtain some relief.

Your League tried very hard to fix it so it would not be necessary to plow up cane acreage in 1955 but the Administration has ruled that Cuban and other foreign producers come first.

Acreage Hearing July 8th

Your attention is again called to the fact that the Sugar Branch will hold its hearing on 1955 Mainland Sugarcane Acreage Allotments in New Orleans on July 8th.

The Hearing will begin at 10 o'clock in the morning in the Auditorium of the International House, 611 Gravier St., New Orleans. This is an open meeting and every sugarcane farmer in Louisiana and Florida is invited to be present.

Growers-Processors Meet

The first of what will probably be a series of meetings of the Louisiana Grower-Processor Committee was held in Thibodaux on June 22nd to discuss the Cane Purchase Contract for the 1954-55 marketing season.

We feel called upon at this time each year to remind the members of the American Sugar Cane League that the Grower-Processor Committee is *not* a committee of the American Sugar Cane League. The Grower members of the Grower-Processor Committee are elected by the growers of sugar cane in Louisiana and the Processor members are elected by the Processors of sugar cane in Louisiana. The Committee at present is composed of the following gentlemen:

Grower members: W. F. Giles, J. J. Shaffer, Jr., Ed. Schexnayder, Maurice Tregre, Fernand Price, and C. A. Duplantis, Jr., with Clifford LeBlanc, D. W. Pipes, Jr., and Ray Mullins as alternates.

Processor members: J. J. Munson, Walter Godchaux, Jr., Irving Legendre, J. P. Duhe, E. W. McNeil, C. S. Churchill and Lacaze Billeaud, with T. M. Barker, Bronier Thibaut, and Don Caffery as alternates.

The job of the Grower-Processor Committee is to discuss the terms of the Cane Purchase Contract and to try to reach an agreement on the recommendations to be presented to the Sugar Branch at the Fair Price Hearing which will be held this year on July 21st in Thibodaux. If the growers and processors agree, a joint recommendation is presented at the Hearing. If the growers and processors do not agree, then the growers present their recommendations and the processors present their recommendations, and the Sugar Branch decides on the terms of the contract.

The American Sugar Cane League has absolutely nothing to do with the recommendations of either the

(Continued on page 303)

IN THE FIELD WITH LLOYD LAUDEN

N. Co. 310

There appears elsewhere in this issue a release statement on the new cane variety N. Co. 310. N. Co. 310 will be distributed this fall for commercial production. The release statement gives a good description of the variety as well as its adaptation.

There are approximately 240 acres of N. Co. 310 on the Secondary Increase Stations located throughout the sugar belt. Small farmers as well as large farmers should certainly make an attempt to get this cane this year, the year it is released, instead of waiting several years after the cane is in production.

In this issue there is also an application blank for ordering N. Co. 310. Because this new cane is located at a large number of places and because of the time required to make arrangements with Secondary Station for the delivery of this cane, applications should be made as early as possible. The last day on which applications for seed cane N. Co. 310 can be accepted is August 13, 1954.

The League will also make available to the County Agents extra application blanks for farmers to order N. Co. 310.

The League, through the cooperation of the Secondary Increase Stations, will also make available to County Agents a supply of N. Co. 310 for a 10 stalk free distribution to all farmers in the sugar parishes. Those farmers who do not plan to apply for purchase of this cane should certainly get the 10 stalks from the County Agent.

Of interest also in this issue is another article on the variety N. Co. 310. This article pertains to the evaluation of the milling and processing qualities of the variety. While studies are being conducted on new varieties in the field, milling and processing studies are also being carried on by the Audubon Sugar Factory, Louisiana State University, and the Bureau of Agricultural and Industrial Chemistry, Southern Regional Laboratory, in cooperation with the League. The data from both the field studies and the milling and processing studies are carefully considered before a new cane is released.

The Contact Committee of the American Sugar Cane League meeting held Wednesday, June 23, at the Houma U. S. D. A. Sugar Station was very well attended. The writer was pleased to see many small farmers as well as many overseers of large plantations present. The very nice attendance at this meeting indicated to the scientists the interest the industry has in their work.

It was at this meeting that the decision was made to release N. Co. 310. The Committee also unanimously approved the following recommendations of the Sub-Committee on Varieties:

1. That C. P. 45-184 be discontinued at all Stations.
2. That C. P. 47-193 be increased

(Continued on page 301)

IN WASHINGTON WITH JOE FERRIS

A Battle Royal

Farm price supports at 90% of parity for another year were voted by the Senate Agriculture Committee. The vote was 8 to 7.

Although President Eisenhower has all but promised to veto any extension of 90% supports, the House Agriculture Committee also has voted to keep them through 1955.

Strenuous efforts are being made in both the Senate and the House for a compromise which would contain some type of flexible supports but would lessen the probable adverse effect on prices of supported commodities.

A major battle is shaping up and the closing weeks of the 83rd Congress are likely to be hot and bitter. The final vote is expected to be extremely close.

Speaking of Battles

The hottest battle in the past 20 years was fought here in Washington last week. In one corner of the marble hall were battling beet sugar processors, most of whom wore spectacles and carried well-filled briefcases. In the other corner, wearing a look of pained surprise, was Larry (Tiger) Myers and his formidable corps of seconds.

The first bout in this verbal fracas started some weeks ago in Chicago when the Sugar Division made its famous (but unpopular) marketing allotment proposal. The beet processors took violent exception to the Government formula and mounting blood pressures in the 22 beet states caused such alarm in the Department of Agriculture that officials there decided to re-open the case and call a new hearing which has just been concluded.

Under Washington rules which govern contests of this nature, one of the contestants is also the referee but we seriously doubt that Larry will hold up his own hand and cry: "The Winnah!"

Agricultural Trade Missions Report

In an earlier issue of the Bulletin you were informed that under White House - USDA sponsorship, a Foreign Agricultural Trade Mission was sent to 35 countries in an effort to make first-hand studies of agricultural trade problems and potential markets for our agricultural surpluses in Western Europe, Asia and Latin America.

"Mission" members broadly representative of American agriculture and agricultural industry have just reported the result of their studies —"no time table of possible trade recovery can be given." They emphasize, however, the need for making every effort to overcome the recent serious decline in U. S. farm exports and regain foreign markets. In 1951 crops from approximately 52 million acres in the U. S. were exported, and in 1953, from around 30 million acres.

Among encouraging developments are marked improvement in gold and dollar reserves in many countries and better national budget positions. (As of April, foreign nations had about $8 billion more gold and dollar resources than at the end of 1949.) Removal by some

(Continued on page 295)

RELEASE OF NEW SUGARCANE VARIETY N. Co. 310

In accordance with established procedure, the three cooperating agencies which are working together in the development of improved sugarcane varieties for Louisiana, viz: the Sugar Crops Section, Field Crops Research Branch, Agricultural Research Service, U. S. Department of Agriculture, the Louisiana State Agricultural Experiment Station, and the American Sugar Cane League of the U. S. A., have jointly approved the release of N. Co. 310 for commercial planting in the fall of 1954.

N. Co. 310 is a cane of moderate vigor and of good growth type. It germinates well as plant cane and shades moderately early, closing in about as soon as Co. 290. As stubble, it usually germinates slowly but thus far has established satisfactory stubble stands. In erectness of growth and in diameter of stalks it is intermediate between Co. 290 and C. P. 44/101, and in most cases can be satisfactorily harvested by machine. It produces satisfactory tonnage on both light and heavy soils, and in the outfield agronomy tests it has outyielded both C. P. 36/105 and C. P. 44/101. It is slightly higher in sugar per ton of cane than C. P. 44/101. It is about equal to C. P. 34/120 in rate of inversion of sucrose between the time of cutting and milling. In milling qualities it is about equal to C. P. 44/101 in fiber content and is considered equal or slightly superior to that variety in overall clarification characteristics.

N. Co. 310 has become infected with mosaic at several of the secondary increase stations, but infection is limited to a trace except in the Teche area where the variety was planted near mosaic-infected Co. 290. There the disease has spread rather rapidly and infection as high as 10 percent was present in plant cane in the spring of 1954. Mosaic causes marked reduction in growth of N. Co. 310. Therefore, it is not recommended for farms or areas where mosaic-infected Co. 290 is present. It is moderately susceptible to red rot. Not enough information is available at present to classify it with respect to resistance to ratoon stunting diseases. The variety is about equal to C. P. 44/101 in borer susceptibility.

N. Co. 310 is adapted to both light and heavy well drained soils in all parts of the district. It should provide a desirable substitute for C. P. 34/120 where this variety is still grown, and can supplement C. P. 36/105 and C. P. 44/101. It is equal or superior to these varieties in tolerance of cold damage to the foliage. It can be used to replace Co. 290 in the Teche area, but mosaic-infected fields of that variety should be destroyed before plantings of N. Co. 310 are made.

N. Co. 310 was bred at the Coimbatore, India, breeding station and grown from the true seed at the Experiment Station of the South African Sugar Association, Natal, South Africa, and thus bears the designation of both stations.

H. M. TYSDAL, Head, Sugar Crops Section, U. S. Dept. of Agriculture.
W. G. TAGGART, Director, Louisiana Agricultural Experiment Station.
J. P. DUHE, President, American Sugar Cane League of the U. S. A.

EVALUATION OF SUGARCANE VARIETY N. Co. 310 FOR MILLING AND PROCESSING

In the pilot plant experiments carried out by the U. S. Department of Agriculture's Southern Utilization Research Branch, variety N. Co. 310 was evaluated in milling studies conducted under contract with Louisiana State University's Department of Chemical Engineering, and in pilot plant processing by the staff of the Sugarcane Products Section of the Southern Regional Research Laboratory. Eight samples, four in 1952-53, and four in 1953-54 grinding seasons, were tested. All of the cane was grown at Southdown plantation, Houma, La.

The tests on variety N. Co. 310 which were made during the last two grinding seasons were compared with the standard, C. P. 44-101, for the same period, which was grown at San Francisco plantation near Lutcher, La. The average results obtained showed that the grinding rate was 100.1% of the standard, and the power consumption was slightly lower, 97% of the standard. The fiber content was 13.710 compared to 13.705 for C. P. 44-101, which can be considered the same on the samples milled.

The purity of the N. Co. 310 juice was higher, and the indicated theoretically available sugar per ton of cane was 107.0% of that of variety C. P. 44-101 canes used in these tests.

The results obtained in the pilot plant processing of N. Co. 310 were slightly better than those obtained with the standard. This variety produced relatively small volumes of mud to be handled in clarification, being the third best of all seven varieties tested. It was 114% of standard in this respect, that is, it produced on the average only 88% as much clarification mud as C. P. 44-101 in the standardized clarification procedure used in these experiments. The clarity was lower, 35.9 (Luximeter) compared to 41.3 for variety C. P. 44-101.

Complete results on the milling and processing of variety N. Co. 310 have been reported at the meeting of the American Society of Sugarcane Technologists in 1953 and 1954, and will be published in the near future. Milling data for the 1952 season are available in Louisiana State University Engineering Experiment Station Bulletin No. 42, by Schaffer, Goodell, Stewart, and Keller, recently published under the title of "Evaluation of Sugar Cane Varieties, A Study of Milling Characteristics.'

C. W. Stewart, *Superintendent, Audubon Sugar Factory, Louisiana State University*

W. F. Guilbeau, *Chemical Engineer, Southern Utilization Research Branch Agricultural Research Service U. S. Department of Agriculture*

—o—

IN WASHINGTON

(Continued from page 293)

countries of some restrictions on buying farm products from dollar areas. Some foreign currencies are becoming sounder, and there is progress toward free convertibility of currencies in important trading countries. Rationing of consumer goods is virtually eliminated. Many countries are taking steps to return agricultural trade to private business. The world's population is increasing and people are desiring a higher plane of living.

* * *

From 100 tons of dry sugar cane, 2980 gallons of gasoline, 3430 gallons of medium oil, 1210 gallons of lubricating oil, and 8.45 tons of raw sugar can be made.

NOTICE!

The American Sugar Cane League has been directed by the U. S. Department of Agriculture and the Louisiana Experiment Station to undertake a fair and impartial distribution of the newly released variety of cane known as

N. Co. 310

A number of plots of this cane are subject to this distribution. It has been grown with the understanding that those growing it shall be paid for it at the price of mill cane plus $2.00 per ton, cut and loaded on the vehicle of the purchaser, and the League is authorized by the U. S. Department of Agriculture and the Louisiana Experiment Station to charge a distribution fee of 85 cents a ton.

If you wish some of this cane please fill out and sign the application blank on the opposite page. NO OTHER FORM OF APPLICATION WILL BE ACCEPTED, AND IT MUST BE RECEIVED AT THE OFFICE OF THE AMERICAN SUGAR CANE LEAGUE, 414 WHITNEY BUILDING, NEW ORLEANS 12, NOT LATER THAN FRIDAY, AUGUST 13, 1954.

The price of the cane is $11.23 per ton, cut and loaded on your vehicle at the secondary station.

For the convenience of delivering and handling the purchase of N. Co. 310 the League is offering the purchaser three choices of locations from which to purchase this cane. The stations possessing N. Co. 310 are:

Parish	Station	Owner	Address
Ascension	Evan Hall	Churchill & Thibaut	McCall
	Palo Alto	Palo Alto Co.	Donaldsonville
	New Hope	Southdown Sugars	Donaldsonville
	Conway	Waguespack Bros.	Burnside
Assumption	Lula	Savoie Farms	Belle Rose
	Westfield	Dugas & LeBlanc	Paincourtville
	Glenwood	Thibaut Farms	Napoleonville
	Foley	Godchaux Sugars	Napoleonville
	Little Texas	Milliken & Farwell	Napoleonville
	Cleveland	Est. E. G. Robichaux	Labadieville
Avoyelles	Shirley	Haas Investment Co.	Bunkie
Iberia	Akers	J. A. Akers	New Iberia
	Caroline	Lionel Kling	New Iberia
	Duhe Bros.	J. P. Duhe	New Iberia
	Enterprise	M. A. Patout & Son	Jeanerette
	Landry's	Leon Landry	New Iberia
Iberville	Milly	A. Wilbert & Sons	Plaquemine
	St. Louis	E. J. Gay Co.	Plaquemine
	Celeste	Jos. Campesi	White Castle
Lafayette	Billeaud-Reaux	Billeaud-Reaux	Broussard
	Burley	F. M. Burley	Youngsville
Lafourche	Laurel Valley	J. W. Lepine	Thibodaux
	Mary	Godchaux Sugars	Raceland
	Greenwood	Southdown Sugars	Thibodaux
	McLeod	Valentine Sugars	Lockport
Pointe Coupee	Alma	Alma Pltg Co.	Lakeland
	Stonewall	A. Wilbert & Sons	New Roads
	Brunswick	A. A. Thibaut	New Roads
St. Charles	Waterford	Milliken & Farwell	Killona
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	Sidney	F. A. Graugnard & Sons	St. James
	St. James	Southdown sugars	Vacherie
St. John	Glendale	T. Lanaux & Son	Lucy
	San Francisco	San Francisco P & M Co.	Lions
	Reserve	Godchaux Sugars	Reserve
St. Martin	Pine Grove	Dr. J. L. Beyt	St. Martinville
	St. John	J. B. Levert Co.	St. Martinville
St. Mary	Azema	Hugh Junca	Franklin, Rt. B
	Calumet	C. Baughman	Patterson
	Shadyside	Virgil Browne	Franklin
W. Baton Rouge	Addition	H. L. Laws & Co.	Cinclare
West Feliciana	Angola	La. State Pen.	Angola
Primary Stations	Smithfield	Milliken & Farwell	Port Allen
	Orange Grove	Orange Grove Co.	New Iberia
	Southdown	Southdown Sugars	Houma

THE LAST DAY ON WHICH APPLICATIONS FOR SEED CANE N. Co. 310 CAN BE ACCEPTED IS AUGUST 13, 1954

The cane will cost approximately as follows:

Mill price per ton at $6.40 sugar	$ 6.78
Conditional payment at 80 cents	1.28
Value of molasses to grower	.32
Premium	2.00
This sum all goes to the grower	$ 10.38
Distribution fee to the American Sugar Cane League	.85
TOTAL PER TON	$ 11.23

The League will make every effort to fill orders at locations selected by applicants.

THE LAST DAY ON WHICH APPLICATIONS FOR SEED CANE N. Co. 310 CAN BE ACCEPTED IS AUGUST 13, 1954

Tear Off Application Below and Mail

APPLICATION FOR SEED CANE

Date .....

To The American Sugar Cane League of the U. S. A. Inc.

Gentlemen:

I hereby apply for .....tons of N. Co. 310 seed cane. I agree to pay when the cane is ready to be delivered to me, and I am to be notified concerning this and supplied with the name and address of the grower from whom I am to get the cane, which I will send for on delivery dates in September 1954.

If for any reason this order cannot be filled, it is understood that my money will be returned to me.

I had .....acres of sugarcane in 1953.

My choices of locations of purchase are:

1st choice .....

2nd choice .....

3rd choice .....

This application is made with the full understanding on my part that it may not be possible for me to get as much cane as I apply for, owing to the limited supply.

Name.....

Address.....

SIZE OF SEED PIECE IN RELATION TO RAPID INCREASE OF A VARIETY

By Robert E. Coleman, and E. V. Abbott, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture

Frequently in the past there has been a need for rapidly increasing a limited quantity of sugarcane seed material in Louisiana. This was particularly true before the present system of seed increase stations was set up under the Three Way Agreement between the Louisiana Agricultural Experiment Station, the American Sugar Cane League, and the United States Department of Agriculture, to provide for the increase of seed cane of promising unreleased varieties at the same time they were being tested in the agronomy program. This now insures that when a variety is considered valuable enough for release to growers, a reasonably ample seed supply is available for distribution to them, thus eliminating the delay in utilization of the variety while special methods of rapid increase of a limited seed supply are resorted to as was true formerly. The identification of ratoon stunting disease in the State, however, and the fact that its control for the present must depend on increasing small stocks of the present commercial varieties that have been freed of the causal virus by heat treatment, again make it important to realize the greatest possible multiplication of the disease-free seed.

A method of rapid increase, using single-eye pieces dipped in paraffin, was described in 1933[1] and was used with some success. However, the results of several trials made from time to time at the Houma station when new varieties were being increased, indicated that use of single-eye pieces did not give maximum increase. Also, the extra labor required for cutting the seed into small pieces and in the subsequent planting, has become an increasing objection to the use of small seed pieces. It was found that where single-eye pieces were dropped into the open furrow and covered by implement, many of them were too deeply covered and germination was suppressed. Careful hand placement and covering were necessary to avoid this. With the present shortage of labor existing in Louisiana, elimination of hand labor from any field operation is important.

Beginning in 1948, several field trials of methods of increasing seed supplies of a variety were carried out. Different varieties were included in the various experiments, and several fungicidal dips were used in some of them in an attempt to determine whether their use would improve germination. In some experiments, certain fungicides gave small increases in germination and yield of cane as compared with the untreated, but the increase was not enough to justify the expense and trouble of applying them. The use of fungicides was therefore discontinued in the later experiments.

On July 13, 1948, the longest stalks were cut from a plot of first stubble of C. P. 44/101, and lots were prepared for planting consisting of 1-eye, 2-eye and 4- to 6-eye (full length) pieces. These were planted in replicated plots with equal number of eyes, in light, sandy soil. Germination counts were made at intervals, the weight of cane suitable for seed was obtained in December 1948, and again as first stubble in September, 1949. The results are tabulated below:

Seed Piece Size	Percent Germination 9/21/48	Tons of Seed Cane Per Acre Dec. 1948	Tons of Seed Cane Per Acre Sept. 1949
1-eye	68.7	0[1]	28.6
2-eye	61.6	3.1	27.4
Full length	55.0	3.2	33.6

[1] Only short jointed stalks were produced, too succulent for use as seed for winter planting.

Rain prevented planting the seed material in December produced from the 2-eye and full length pieces, but if this had been possible the quantity of seed available in September 1949 from them would have been materially increased.

On January 6, 1948, seed of 7 varieties was cut into one-fourth (3- to 4-eye) and one-half length (6- to 8-eye) pieces and planted in light soil on Pointe Farms Plantation, near Montegut, Louisiana, with 5 replications of plots 15-ft. long of each seed piece size. Germination, as shown by a count of primary shoots in April, was not significantly different for the two seed piece sizes, but on September 22, when the plots were cut for seed, the yield of cane from the half-length pieces was greater than for the fourth-length for all varieties, as shown by the following tabulation:

Variety	Tons of Cane Per Acre from Seed Piece Size:[1]	
	¼ Length	½ Length
C. P. 34/120	14.8	19.0
C. P. 44/101	27.7	28.9
C. P. 44/132	8.8	11.8
C. P. 44/153	25.7	28.4
C. P. 45/137	14.2	20.7
C. P. 45/165	12.6	16.5
C. P. 47/193	19.8	23.9

[1] Difference required for significance at odds of 19:1, 1.5 tons.

On August 22, 1949, 2-eye, 4-eye (half length) and 8-eye (full length) seed pieces of C. P. 44/101 were planted in replicated plots in light soil on Pointe Farms Plantation. There were 12 replications of each seed piece size in plots 1/135-acre in size, and the seed in half of each was dipped in 1 percent Arasan solution before planting. The results are tabulated below:

Seed Piece Size	Percent Germination 9-30-49		Weight of Seed Cane (Tons) 9-29-50	
	Treated	Untreated	Treated	Untreated
2-eye	54	47	30.9	29.1
4-eye (half length)	47	47	29.3	29.2
8-eye (full length)	43	47	29.3	30.3

No benefit was obtained from treating the seed with a fungicide or cutting it into small pieces.

With this work as a basis, further experimental work was done in 1952 and 1953. The variety chosen for increase was C. P. 50/11. This was planted in three-row plots, replicated six times. The seed piece sizes used were: single-eye, single-eye dipped in paraffin, 2-eye, half length stalks (4 or 5 eyes), and full length stalks (8 or more eyes). These plots were planted at the rate of 78 eyes per 12.5-foot plot on August 11, 1952. Germination and stalk counts were made at intervals following the planting. These are shown in table 1.

It is apparent from this table that the advantage obtained in early germination by the single-eye and 2-eye sizes was eventually lost to the later germination and greater tillering of the half and full length seed pieces. About three months after planting and just at the time the foliage was killed by frosts, there were significantly better stands in the longer seed piece treatments. This is shown by both the total shoot count and number of shoots per stool. Counts made in February following a moderate winter (ten days of below freezing temperatures and a minimum of 24° F.), continued to show greater increase in stand of cane from the full and half length seed pieces compared to single and two-eye pieces. By May 14, there was nearly a four-fold increase in stand from the longer seed pieces. This is shown by the actual number of stools per plot, the total number of shoots and the number of shoots per stool. The yield data of the plant cane crop as shown in the last column of table 1, represent a doubling in the yield from full and half length seed pieces compared to single-eye pieces. There was an 18 percent greater yield from these over the two-eye pieces.

This experiment was repeated in a planting made on August 12, 1953 with the same variety. Thus far only percentages of germination and shoot counts on three subsequent dates have been taken. These

(Continued on next page)

Mr. David W. Pipes, Jr. (left) Presents Certificate Of Life Membership In The American Sugar Cane League To Dr. E. V. Abbott At The Meeting Of The League's Executive Committee Held In New Orleans April 30, 1954.

Table 1. Average percent germination, total shoots, shoots per stool, stools per plot and final yield at various intervals after planting of five seed-piece treatments with C. P. 50/11 planted August 11, 1952 at the Houma Station.

Treatment	1952					1953					
	Aug. 27	Sept. 3	Sept. 16	Oct. 2	Nov. 18	Feb. 18	May 14			Nov. 16	
	Germination Percent				Total Shoots	Shoots per stool	Stools per plot	Total Shoots	Shoots per stool	Yield of tons per acre	
Single eye	12	19	32	44	349	135	2.0	10	450	7.1	19 2
Single eye + Paraffin	17	24	36	47	450	106	1.7	7	257	6.1	13.2
2 eyes	13	18	27	35	438	274	2.7	17	935	9.2	36.8
Half length	7	18	31	41	470	391	3.4	21	1328	10.3	42.4
Full length	4	12	25	33	396	361	2.6	20	1335	11.0	47.0

are tabulated below:

	Germination Percent		Total No. Sheets
	Aug. 27	Sept. 18	Nov. 10
Single-eye	52	72	81
Single-eye + Paraffin	54	69	91
Two-eye	39	60	90
Half length	21	46	73
Full length	17	39	59

The data are very similar to those of table 1, and show the progressive loss of the initial advantage of rapid germination from single-eye pieces to the longer length pieces.

Conclusions

It is apparent from the results of these experiments that although single-eye or two-eye seed pieces give higher initial rates of germination, they do not yield as much

Mr. Marcel J. Voorhies (right) Presents Certificate Of Life Membership In The American Sugar Cane League To Dr. St. John P. Chilton At The Meeting Of The League's Executive Committee Held In New Orleans April 30, 1954.

seed material the next summer or fall as do larger pieces of five or more eyes. This is at least partly due to the ability of the longer seed pieces to resist the winter conditions, and to the greater tillering of the plants grown from them. For maximum increase of a limited seed supply, therefore, use of larger seed pieces is preferable to cutting the stalks into one-eye or 2-eye pieces. For early summer planting, use of full length stalks is recommended. For late summer or early fall planting, cutting the stalks in half is desirable from the standpoint of getting more uniform placement of the seed pieces in the row. Use of half length pieces often results in more uniform stands and avoids the bending that frequently occurs when full length stalks are planted. However, the yield of cane from planting half and full length stalks is usually about the same. Cutting seed cane into shorter than half length pieces requires more labor and, particularly if they have fewer than 5 eyes, often results in a lower yield of seed cane the following year.

[1] Taggert, W. G., and E. C. Simon. The rapid multiplication of a promising new sugarcane variety. Sugar Bulletin (La.) 11(18): 1-3, 1933.

IN THE FIELD

(Continued from page 292)

up to 10 acres at all Stations.

3. That C. P. 48-103 be increased up to 10 acres at all Stations.

4. That the decision on whether to transfer C. P. 50-11 to Secondary Increase Station be made at the September meeting of the Sub-Committee on Varieties.

* * *

Columbus introduced sugar cane culture to the Americas.

SUGAR MARKET STATISTICS THROUGH JUNE 25, 1954

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.18	6.00	6.40
QUOTA RAWS DELIVERED NEW ORLEANS	6.16	5.98	6.38
WORLD SPOT RAWS (In Cuba)	3.23	3.31	3.55

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Sept.	Nov.	Mch.	May
Today	5.73	5.73	5.52	5.54
1 Month Ago	5.71	5.71	5.48	5.50
1 Year Ago	5.93	5.93	5.58	5.62

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	259,776 bags	1,347,353 bags
Godchaux	213,975 bags	938,896 bags
Colonial	120,604 bags	973.049 bags
Henderson	86,974 bags	334,815 bags
Southdown	None	58,862 bags
South Coast	56,956 bags	371,259 bags
Sterling	None	None
Supreme	53,595 bags	433,681 bags
Totals	791,880 bags	4,457,915 bags

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LION OIL PLANT IN OPERATION

The first train-load of anhydrous ammonia was shipped May 17 from The Barton Plant, Lion Oil Company's new chemical manufacturing installation near New Orleans. The plant, which has been under construction since mid-1952, is expected to be in full operation some time next month, according to a company announcement.

Current production of anhydrous ammonia is up to designed capacity of approximately 300 tons a day. When all facilities of The Barton Plant are in full production, it is expected that shipments of anhydrous ammonia and pelleted ammonium nitrate will average about 600 tons per day throughout the year. By-product carbon dioxide will be utilized for the production of about 42 tons daily of dry ice and liquid carbon dioxide.

Nitric acid, an intermediate chemical in ammonium nitrate manufacture, will be produced in a unit with capacity for 430 tons of acid a day.

The first tank car of anhydrous ammonia from the new chemical plant was consigned to the Harvey, La. plant of Swift and Co.'s Plant Food Division.

UP FRONT

(Continued from page 291)

growers or the processors or the terms of the contract.

Bulletin No. 46

The College of Engineering of Louisiana State University has asked us to call attention to their Bulletin No. 46 the title of which is "Studies of Thermal Conductivity of Liquids, Part IV, A Literature Survey of Ultrasonic Velocities in Liquids and Solutions". We are, of course, very happy to comply with their request.

This work is by Byron C. Sakiadis, Research Assistant at the Engineering Experiment Station and Dr. Jesse Coates, of the Department of Chemical Engineering.

Our editor, Mr. Gilbert J. Durbin, received a request the other day from Mr. Paul C. Koons, Acting Director of the Engineering Experiment Station, asking him to review Bulletin No. 46 but Mr. Durbin was sorta preoccupied at the time with a kidney stone so he turned this little job over to our "In the Field" man, Mr. Lloyd L. Lauden.

Mr. Lauden took one look at Bulletin No. 46 and suddenly remembered an urgent date he had somewhere in the field so No. 46 is now on my desk where it should have been in the first place.

Ultrasonic Velocities In Liquids and Solutions is all very simple. You drop in a little sound and the sound goes round and round and—just like it says in Bulletin No. 46,

$$C_p - C_v = \frac{T B^2}{778.16 K_{is} P}$$

Even a man who spends most of his time in the field should know that.

For more detailed information we suggest that you send a dollar to the Engineering Experiment Station of Louisiana State University, in Baton Rouge, La., and get your own personal copy of Bulletin No. 46, and, if you see Lloyd L. Lauden in the field somewhere, tell him that Bulletin No. 46 has been "reviewed" and it's all right to come home.

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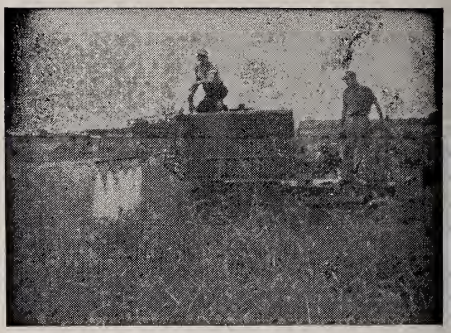

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THE SUGAR BULLETIN

l. 32—No. 20 JULY 15, 1954

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

The Right-To-Work

On July 2nd Governor Kennon signed the Right-To-Work bill and when he did so Louisiana became the 17th State to adopt this type of legislation. For the record we are printing the complete text of the Right-To-Work Bill on page 311 of this issue. Also for the record we list below the recorded vote on the Right-To-Work Bill.

In the Senate the vote was 22 for and 14 against.

Voting for the measure were: Ainsworth, Eustis and Richards of New Orleans; Boles of Rayville; Bonin of St. Martinville; Burleigh of Franklin; Copeland of Leesville; Doles of Plain Dealing; Duchein of Baton Rouge; Folse of Arabi; Gardiner of Crowley; Girard of Lafayette; Haley of Kilbourne; Hinton of Downsville; Martin of Lutcher; Person of Ferriday; Rainach of Summerfield; Rogers of Grand Cane; Sevier of Tallulah; Sparks of Monroe; Toler of Clinton; and Wilkinson of Port Allen.

Voting against the measure were: Deichmann, Howard, MacHauer, Mahoney and Seeber of New Orleans; Caillouet of Thibodaux; Davis of Olla; Freidman of Natchez; Guthrie of Ponchatoula; McCann of Effie; Rayburn of Bogalusa; Sockrider of Lake Charles; Stumpf of Gretna; and Tooke of Shreveport.

The following Senators were either absent or did not vote; E. M. Boagni, Jr. of Opelousas; G. F. Hennigan of Fields; and J. R. Hunter, Jr. of Alexandria.

The vote in the House was 58 for and 41 against.

Voting for the measure were; Barranger, DeVille, Koorie and Tessier of Orleans Parish; Gravolet of Plaquemine Parish; Cleveland and Fremaux of Acadia Parish; Savoie of Assumption Parish; Villemarette and Yarno of Avoyelles Parish; Wimberly of Bienville Parish; Stinson of Bossier Parish; Brown, Gardner, Jack, and Smith of Caddo Parish; Calton of Caldwell Parish; Dyson of Cameron Parish; Womack of Catahoula Parish; Garrett of Claiborne Parish; Murray of DeSoto Parish; McCollister and Roberts of East Baton Rouge Parish; Delony of East Carroll Parish; Morgan of East Feliciana Parish; Buie of Franklin Parish; Rambo of Grant Parish; Decuir of Iberia Parish; Kirkpatrick of Jefferson Davis Parish; Begnaud and Webb of Lafayette Parish; Guidry and Soignet of Lafourche Parish; Napper of Lincoln Parish; Lancaster of Madison Parish; Cheves and Boozman of Natchitoches Parish; Faulk and Wall of Ouachita Parish; Jewell of Pointe Coupe Parish; Blair and Goff of Rapides Parish; Vetter of Red River Parish; Stout of Richland Parish; Belisle of Sabine Parish; Graugnard of St. James Parish; Dubuisson and Mrs. Parrott of St. Landry Parish; Angelle of St. Martin Parish; Aycock and Grizaffi of St. Mary Parish; Seaman of Tensas Parish; Dupont of Terrebonne Parish; Fields of Union Parish; Hernandez of Vernon Parish; Gleason

(Continued on page 318)

IN THE FIELD WITH LLOYD LAUDEN

Seed Treatment For Stunting Disease In 1954

Again this year the American Sugar Cane League, the Louisiana State Experiment Station and the United States Department of Agriculture will continue their attempts to control Stunting disease of sugar cane by using a Hot Air Treatment of 54° C for 8 hours.

The League's Committee on the Control of Stunting Disease has commissioned the firm of Ogden and Woodruff, Consulting Engineers, Baton Rouge, La. to draw up plans and specifications for a heating unit that will treat 3½ tons of cane at a temperature of 54° C for an 8 hour period.

Mr. Lewis Doherty, contractor, Baton Rouge, La. has been awarded the contract to construct the unit. The League has made available a sum of money to cover the costs of construction and operation of this unit.

This unit will be constructed on a La Cross trailer powered by a 5 ton White power unit. The trailer bed is 26 feet long and 9 feet wide. This La Cross trailer and White power unit is owned by the Agricultural Engineering Dept. of Louisiana State University and is the same unit used for this project last year. The same heating chamber 26 feet long, 9 feet wide and 8 feet high used last year will be used again this year.

Plans this year call for insulating the walls and ceiling and construction of shelves mounted to the walls and air ducts below each shelf. Walk way space will be reserved between shelves for loading and unloading the cane.

Below are most of the specifications of the heating unit.

Duct Heater: Janitrol No. 450-94, equal Butane fired, with A.G.A. output capacity of 360,000 Btuh.

Supply Fan: American Blower Type ACH No. 118H, or Equal 5400 CFM at ¾" S.P., 1900 O.V., 530 RPM, 18" Wheel, up blast discharge, counter clockwise rotation, belt driven.

Butane Engine: A 20 horse power Wisconsin Engine to be mounted on trailer as shown. Provide adjustable pulley on engine shaft to drive fan as specified speed. Pulley shall have sufficient range to vary fan speed 10% below and above speed specified.

Butane Tank: Mount tank on trailer. Provide full charge of Butane. Provide necessary piping and valves to hook-up engine and heater. Grade all pipe ¼" per foot. Installation of tank and piping to be as recommended by La. Liquified Petroleum Gas Association.

Controls: Controls shall be Minneapolis, Honeywell, or equal, and in general shall consist of the following complete with wiring:

Thermal overheat fan switch to turn on fan and shut off burners in case of overheat set at 135° F.

Pan type humidifier complete with pan, float valve, storage tank, and piping.

Three averagine type remote bulb electronic thermostats to control

(Continued on page 317)

IN WASHINGTON WITH JOE FERRIS

You Can And You Can't — Or What To Do With Your Excess Quota Sugarcane

Drastic curtailment of marketing and a reduction in the number of acres of sugarcane which may be planted in Louisiana and Florida have brought up the $64 question: "What can a producer do with his excess quota sugarcane?"

There are only three alternatives available to the producer who wants to dispose of non-proportionate share sugarcane and still qualify for Sugar Act payments. According to the Sugar Division, U. S. Department of Agriculture, these alternatives are (1) he may use the sugarcane for the production of high test molasses, or (2) for the production of syrup, or (3) for feeding to livestock as sugarcane.

When asked whether sugarcane used for livestock feed or in the production of livestock feed or for the distillation of alcohol is subject to a processing tax, Internal Revenue officials and officials of the U. S. D. A. were in accord, namely: that a tax must be paid on all manufactured sugar but that a refund is obtainable by the person using the manufactured sugar for any of the specific purposes enumerated above.

The next question to U. S. D. A. was whether or not such sugar was chargeable against marketing quotas under Title II of the Act. The Sugar Division spokesmen pointed out that Section 212 of the Act specifically exempts from Title II sugar or liquid sugar used for the distillation of alcohol or for livestock feed or for the production of livestock feed. They said that if a producer desires to market sugar for the purposes exempt under Section 212 without charge to the quota and marketing allotment, he may do so by furnishing a bond in accordance with Sugar Regulations 819.

The next question was whether or not such sugar was chargeable or reckoned in the Areas' production quota. Agriculture officials said that all sugarcane grown on the farm for the production of sugar or liquid sugar and for seed must be within the proportionate share for the farm if the producer desires to qualify for a Sugar Act payment. Non-proportionate share sugarcane may be marketed from a farm only for the production of high test molasses or syrup or to be fed to cattle as sugarcane, providing the producer properly accounts for such non-proportionate share cane disposed of in this manner.

Question No. 4 was whether sugar from cane grown on lands not under proportionate shares could be used for this purpose without jeopardizing the benefit payment to a processor and grower. The answer: Assuming that the sugarcane is produced on land which is part of a farm with a proportionate share, the producer would forfeit the entire Sugar Act payment if any non-proportionate share cane was marketed for the production of sugar or seed. Section 301(b) of the Sugar Act provides as a condition for payment to a producer that there shall not have been marketed or processed an amount of sugarcane grown on a farm and used for the

(Continued on page 317)

SUGAR TECHNOLOGY IN LOUISIANA

(A Talk at the March Meeting of the Louisiana Academy of Science, by Dr. George P. Meade)

Sugar chemists and sugar chemistry are terms that are necessarily ambiguous because they refer to two widely differing fields of thought and endeavor. At one end of the scale—at the top of the scale, I might say—are the true sugar chemists, as exemplified by the great German, Emil Fischer of the nineteenth century, and America's C. S. Hudson, who died just a few years ago. These men, and others like them, were true sugar chemists because they have studied the extremely complex organic chemistry of the sugars—the composition, the reactions, the synthesis and the make-up of the whole class of compounds that are generically classed as "sugars" by the chemists themselves. At the other end of the scale—the bottom of the scale, if you wish—are those like myself who are *called* sugar chemists but who are really sugar technologists.

What we are discussing here this afternoon, then, is not sugar chemistry but sugar technology—actually cane-sugar or sucrose technology to be more specific—that is of such enormous importance to the economic and scientific life of Louisiana.

It is a strange thing that even to Louisianians themselves "the sugar business" means primarily cane raising and raw sugar manufacture —"the grinding season". Few even within the business itself seem to realize that the Port of New Orleans imports more raw sugar for refining than any Port of Entry in the United States (possibly in the world) and that this raw sugar is all turned into refined sugar in such volume as to make Louisiana, not only the largest cane-growing state in the Union but the largest cane-sugar refining state. When I made this statement last year at a meeting in New Orleans of refiners from all over the world, it was the Louisianians present who questioned the statistics!

Although it is quite a common error in Louisiana to call raw sugar factories refineries, a true refinery is one that takes raw sugar made at the factory and refines it by remelting and subsequent processing. There are only 19 operating cane sugar refineries in the United States producing the 6½ million tons of refined cane sugar that is consumed in this country. Two of these are in Boston, four in the Port of New York, two in Philadelphia, one each in Baltimore; Savannah; Sugarland, Texas; and the Port of San Francisco, and the remaining seven are all in Louisiana i.e. more than one third of the operating cane sugar refineries are in the Southern part of this state near New Orleans.

It may be well at this point to explain the sharp difference between the older style bonechar refineries and the more recent process using activated carbon. Bonechar is the older and more elaborate process and it is employed by 15 of the 19 refineries described above.

The bonechar itself is made by calcining animal bones in granular form at a very high temperature (1400°F) until all the volatile organic matter is driven off, leaving a deposit of carbon on the bony structure of tri-calcium phosphate. This material was first put into use in sugar refining about 130 years ago and at least 90% of all the refined cane sugar produced in the United States is decolorized with bonechar. The char is used over and over again through cycles of filtration, washing with hot water, and revivification by heat in pipe kilns, so that it is in service from 3 to 5 years. The weight of bonechar in use is enormous, a large refinery having a million pounds in

(Continued on page 312)

TEXT OF THE RIGHT-TO-WORK BILL, EFFECTIVE JULY 28, 1954

Section 1. Be it enacted by the Legislature of Louisiana, that it is hereby declared to be the public policy of Louisiana that the right of a person or persons to work shall not be denied or abridged on account of membership or nonmembership in any labor union or labor organization.

Section 2. Any express or implied agreement or understanding, or practice, between any employer and any labor union or labor organization whereby any person not a member of such union or organization shall be denied the right to work for an employer, or whereby such membership is made a condition of employment or continuation of employment by such employer, or whereby any such union or orzanization acquires an employment monopoly in any enterprise, is hereby declared to be an illegal combination or conspiracy and against public policy.

Section 3. Any express or implied agreement, understanding, or practice which is designed to cause or require, or has the effect of causing or requiring, any employer, whether or not a party thereto, to violate any provision of this act is hereby declared an illegal agreement, understanding, or practice and contrary to public policy.

Section 4. Any person, firm, association, corporation, or labor union or organization engaged in lockouts, lay-offs, boycotts, picketing, work stoppages, slow-downs, or other conduct, a purpose or effect of which is to cause, force, persuade or induce any other person, firm, association, corporation or labor union or organization to violate any provision of this act shall be guilty of illegal conduct contrary to the public policy as stated in this act.

Section 5. No person shall be required by an employer to become or remain a member of any labor union or labor organization as a condition of employment or continuation of employment by such employer.

Section 6. No person shall be required by an employer to abstain or refrain from membership in any labor union or labor organization as a condition of employment or continuation of employment.

Section 7. No employer shall require any person, as a condition of employment or continuation of employment, to pay any dues, fees or other charges of any kind to any labor union or labor organization.

Section 8. Any person who may be denied employment or be deprived of continuation of his employment in violation of this act, shall be entitled to recover in solido from any other person, firm, corporation, association, or labor organization so violating this act, or acting in concert with such violator, by appropriate action in the courts of this state, such actual damages as he may have sustained by reason of such denial or deprivation of employment.

Section 9. Any employer, person, firm, association, corporation, labor union or organization injured as a result of any violation or threatened violation of any provision of this act or threatened with any such violation shall be entitled to injunctive relief in the manner provided by the injunction law of this state applicable to general civil matters, presently Louisiana revised statutes of 1950, title 13, chapter 20, part 5, sections 4061-4071, inclusive, against any and all violators or persons threatening violations.

Section 10. Nothing in this act shall be construed to deny or abridge the right of employes by and through a labor organization or labor union to bargain collectively with their employer.

Section 11. This act shall apply

(Continued on next page)

to all contracts entered into after the effective date hereof and to any renewal or extension of any existing contract occurring thereafter.

Section 12. If any clause, sentence, paragraph, section or part of this act shall be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, section or part thereof directly involved in the controversy in which such judgment shall have been rendered.

Section 13. All laws or parts of laws in conflict or inconsistent herewith be, and the same are, hereby repealed.

SUGAR TECHNOLOGY

(Continued from page 310)

active service at all times.

Activated carbon, is quite a different material, made by burning such waste fibrous materials as peat, sea weed, rice hulls, paper pulp waste, etc., and then treating with strong chemicals such as caustic soda and acids. The resulting carbon is used in a two-stage throw-away basis, a very small percentage of carbon on the solids melted being sufficient to decolorize the sugar solutions.

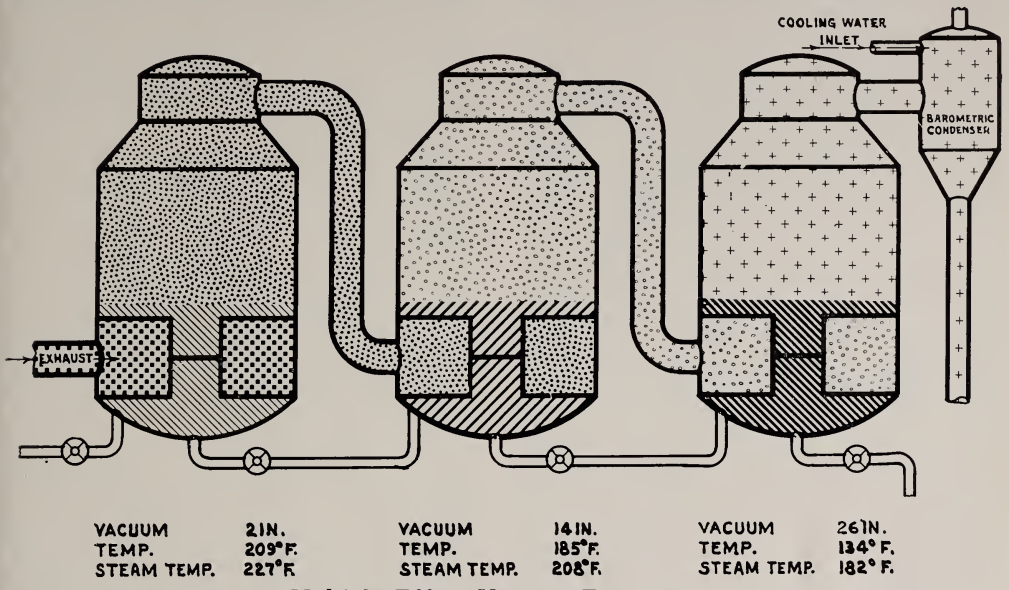
In 1920 and the following decade the development of activated carbon was actively pursued in Louisiana and it was believed by many that activated carbons would completely replace bonechar. The process was simpler and did not require the large investment that the bonechar process does, water requirements were less, a few pounds of carbon replaced thousands of pounds of char etc. However, it soon developed that the activated carbon process was as costly over all as the bonechar system and the vegetable carbons are now used only in the smaller and less elaborate plants. The two processes are still controversially opposed. On the one hand, the bonechar refineries point out that no refinery using char has changed over to adopt the simpler activated carbon process. As opposed to this the carbon refineries point out that the only new refineries built in the past thirty years have employed activated carbons. Neither of these arguments is conclusive but it is of interest to Louisiana that three of the four refineries in the United States using activated carbon are in Louisiana, and all three of these have been built or rebuilt in the past twenty years.

Louisiana has a proud heritage in its contributions to the scientific and technological development of the sugar industry of the world. My talk is supposed to refer to "recent" advances but it is fair to interpret that word somewhat elastically and to speak of the historical background of Louisiana sugar technology.

By far the greatest achievement of a Louisianian in the field of sugar was the invention and development of the multiple-effect evaporator by Norbert Rillieux, a "free man of color" and an engineering genius of a century ago. Rillieux was born of a French father and a quadroon mother in New Orleans in 1805 and was later educated in Paris where he became an instructor in the Ecole Centrale while still a very young man. He developed the theory of multiple-effect vacuum evaporation and returned to his native New Orleans about 1834 to put the principle into active practice. His earlier experimental equipment failed for reasons not evident today but by 1843 he had obtained patents and put into active operation the first vacuum multiple-effect evaporator in history. This has been described by the late Dr. Charles A. Browne, eminent sugar specialist and chemical historian, as the "greatest achievement in chemical engineering in the nineteenth century."

Rillieux's patents show that he had a complete grasp of the thermo-

dynamics underlying the principles of his evaporators. It is important that this point be understood, as I have heard educated men in Louisiana, who know of Rillieux's racial background say that "he was an ignorant Negro who connected two vacuum pans together and found that they would work". Nothing than the preceding one, with the first heated by steam and the successive ones so connected that the vapor of the first passed from it to the heating element of the second; the vapor of the second to the heating element of the third, and with the last body connected to a condenser (Explain by Diagram). This



Multiple Effect Vacuum Evaporator

could be further from the truth. The "Louisiana Planter" at the time of his death in 1894 said that Rillieux was "one of the most distinguished engineers that has ever been identified with the sugar-industry" and this has been echoed by all students of the history of sugar technology.

The theory of multiple-effect evaporation is based on the repeated use of the latent heat of the vapors from the sugar solution being evaporated. In theory, one pound of steam could evaporate an almost unlimited amount of water by the multiple-effect principle, although in practice the system is limited by many factors such as temperature and pressure differentials and the like.

In practice Rillieux's patents consisted of a series of vacuum vessels, each maintained at a lower vacuum is the essential design of modern multiple evaporators, now universal in all sugar work and in chemical processing of widely varying kinds such as condensed milk, salt manufacture, soap gelatine and glue and in recovery of waste liquors in many processes. Before leaving the fascinating story of Rillieux, it should be noted that his was no mere improvement but a revolution in sugar manufacture. The manual labor of sweating slaves ladling syrup from one vat to the next in the old open kettle process was replaced by a skilled operator manipulating the valves of a complex apparatus, in exactly the same way as is done in modern sugar practice.

Another "first" for Louisiana at about that same time was the importation by Valcour Aime in St. James Parish of the first polariscope ever used in the Western

Hemisphere. Somewhere in the Louisiana State Museum in New Orleans is the apparatus that Valcour Aime pioneered in bringing to this country and which was made in France by the famous Clerget himself.

The polariscope is now universal in all sugar practice for the analysis and control of the products. Biot Clerget and others in France discovered about 1845 that a sugar solution will rotate the plane of polarized light, the amount of rotation depending on the concentration of the solution, the depth of solution through which the light passes and the amount of sugar present. By controlling all the variables except the purity of the solution itself the amount of rotation can be translated to "sugar degrees" and the percentage of sugar in the solution determined with commercial accuracy. The purchase of raw sugar throughout the world is on a "polarization" basis, and a "96 test raw" means one giving a reading of 96 sugar degrees on the polariscope under the controlled conditions of the test. All this that has been described so far was in ante-bellum days.

The milling or grinding of cane, for over 150 years, has been done by horizontal metal rollers (cast iron or steel) arranged in triangular pattern so that the cane passes first between the top roller and the forward bottom roller and then between the same top roller and the rear bottom roller. Such a combination is known as the three-roller mill, and during the nineteenth century, cane was generally ground after preliminary crushing or shredding, on two such three-roller combinations called specifically a six-roller mill.

Nowadays fifteen or eighteen and even twenty-one roller mills are quite common, preceded by knives, crushers, and shredders to prepare the cane for the milling.

Most of us in the sugar business are so used to these long trains of mills for the grinding of sugar cane that it is hard for us to realize that the first nine-roller mill in the world was installed about 1900 at "Cora" plantation just above Donaldsonville. This innovation was of such importance and caused so much talk in cane-grinding circles that the manufacturers of this set of mills called their product the "Cora" mills and the name of this Louisiana relatively small plantation, cast in raised letters on the mill-housings, became famous all over the cane-producing world.

More recently Louisiana has pioneered in the elaboration of cane by-products. The first large commercial use of bagasse, the fibrous waste left after the extraction of the juice from the cane, was for the manufacture of the wall-board known as "Celotex". Other less widely known by-product usage will be mentioned later.

The sugar business in general—not only in Louisiana—was among the earliest, if not *the* earliest of the industries to employ chemists and chemical control. When the American Chemical Society was founded in 1876, ten of the thirty-five charter members were then engaged in sugar work or later became prominent in the industry. When I entered the sugar refining branch of the industry at the turn of the century, complete technical and quality control were already an established fact in much the same form as they are today, in kind if not in degree. Instrumentation is of course more general than it was then, as it is in all industries.

Two analytical advances, not directly related to sugar chemistry, have contributed greatly to technologic and chemical improvement in all branches of the sugar industry. The first of these is hydrogen-ion concentration, more generally called pH for the control of acidity-alkalinity conditions in sugar processes. It is of interest that the first paper on the use of the pH system in sugar work was published

in 1922 in the old "Louisiana Planter" by Brewster and Raines, then both with the Louisiana Experiment Station at Baton Rouge. The pH methods most generally employed at that time were colorimetric; but these were soon replaced by electrometric apparatus. Someone in Europe said that Americans determine the pH of everything, living and dead, and this is certainly true in the sugar business.

Sugar is extremely sensitive to both acidity and alkalinity, acid liquors inverting and alkaline liquors destroying levulose with discoloration and these reactions are especially evident at the high temperatures maintained in all sugar processes. The pH measures the true inverting power of acids whereas titrations and test papers do not, so the pH system is exceptionally useful in sugar work and is used at all stages of the process, but most effectively in clarification of raw houses and in defecation of the liquors in the refinery. It is common practice for unskilled workmen to run colorimetric pH tests but more recently the electrometric system use of determination has come into commercial practice. Automatic pH control of the addition of lime and other chemicals both in raw sugar factory work, beet factory carbonatation, and cane sugar refining defecation, are now general throughout the world. The old litmus and other test-paper methods have been entirely superseded, and many young sugar chemists do not know what litmus paper looks like.

The other scientific advance that has contributed greatly to all classes of sugar work in colorimetry. The importance of color and color products in all the branches of the industry needs no emphasis, and modern methods of spectro-photometric color determination have become a valuable tool in the hands of the sugar technologist. As a companion to colorimetry, the determination of turbidity in sugar solution, ranks in almost equal importance. Unfortunately it can not be said that the methods for determining color and turbidity have been definitely established, as can be seen from the many papers on these subjects being discussed on every program of the Carbohydrate Division of the American Chemical Society.

It is quite customary now to use electro-photometric instruments for colorimetry and turbidemetry, eliminating the human element in the determination of color and turbidity. These instruments, like most automatic laboratory devices, are extremely tricky and frequently give very misleading results if not properly serviced.

Another powerful analytical tool that is just now being put to excellent use by research men in the industry is paper chromatography, which has made possible the separation of constituents in sugar liquors that have previously been guessed at or at best approximated. This is a research device not yet in use in routine control work but it may well be, as in the case of many other scientific innovations, that some day it will be simplified and used for control purposes.

One of the most spectacular of all modern advances suggested for sugar work are the synthetic ion exchange resins that have come into general use in recent years especially in connection with water purification. As a friend of mine said when he first heard of ion exchange, "if it is possible to reach into a common salt solution with a resin and take out the sodium leaving hydrochloric acid, and then reach in with another resin and take out the hydrochloric acid, leaving water only, it is time for me to go back to freshmen chemistry". The ion exchange resins were greeted in the sugar business with much enthusiasm and are actually in use in a few beet-sugar houses and in some special processes in cane refining. However, as a general purifying agent for sugar solutions, particularly cane sugar, they have been

found to be much more expensive than the benefits of the process warrant, and the adoption has not met with the success that the proponents originally expected. It is frequently lost sight of that by far the cheapest and most generally used method of purification of sugar solutions is crystallization and crystallization has never been supplanted in either cane sugar manufacture, cane sugar refining, or beet sugar manufacture, as a method of removing the greater portion of impurities from sugar.

Possibly one of the best evidences of the advance of sugar chemistry and technology is the growing literature on the subject, and the increase in the number of scientific associations dealing with various phases of the work. Within the past ten or fifteen years we have seen the publication of "Polarimetry, Saccharimetry and the Sugars" by Bates and his associates at the Bureau of Standards; "Technology for Sugar Refinery Workers' 'by Oliver Lyle of England; "The Bibliography of Solid Adsorbents" by Deitz of the Bone Char Research Project, also of the Bureau of Standards; "Beet Sugar Technology" by McGinnis and others (the first book in English on beet sugar in over sixty years) and "Sugar Technology" by Pieter Homig and a group of specialists. A book in French "La Sucrerie de Cannes" by Hugot supplements this list, and during this period new and enlarged editions of the monumental "Sugar Analysis" by Browne and Zerban, and the "Cane Sugar Handbook" have also appeared.

The associations relating to sugar that have been formed in this same period include The Sugar Research Foundation, Inc. of New York, a joint project of all sugar interests, Beet and Cane, in the United States and the West Indies that is doing noble work in combatting the false beliefs of food faddists who condemn sugar as a food. The Bone Char Research Project, carried out at the Bureau of Standards is sponsored by United States refineries and many refiners abroad who are interested in the use of bone char and other decolorizers and adsorbents. This project is of particular interest as it is the first in my experience in which the cane sugar refiners of the United States have colloborated in a research project of general interest to their technical and technological betterment. The International Society of Sugar Cane Technologists meets every three years in various cane producing countries of the world, the last meeting in the United States being in Baton Rouge in 1938. The International Society has branches in all cane producing countries, the American Society of Cane Sugar Technologists having its headquarters in Louisiana. Sugar Technicians, Inc. of New York is made up largely of engineers and technologists from the Eastern Seaboard but has done good work in bringing these men together. The International Commission for Uniform methods of Sugar Analysis holds it quadrennial Session in Paris in June of this year. A description of the important work of this Commission is beyond the scope of this talk but the main purpose is expressed by the title of the Commission.

Earlier, I spoke of really recent advances in the use of cane by-products, and this may be a good note on which to close this talk. Besides the "Celotex" operation that has been manufacturing wall-board from cane fibre (bagasse) since 1920, we have the much more recent development of the use of bagasse for chicken-litter, plant mulch and the manufacture of alpha cellulose, all by the Godchaux interests. At Valentine factory, bagasse is being used as the basis for plastic manufacture, and quite recently for paper manufacture. From molasses, Godchaux has been extracting aconitic acid and calcium aconitate, and to complete the picture, our own plant at Gramercy has the only commer-

cial cane-wax refinery in the world.

It has long been known that the wax on the outside of the cane stalk which anyone of you can see by running his finger nail over the surface of a ripe stalk of cane is broken up during the crushing and grinding, enters into the juice and is precipitated in the muds in the clarification process. It has also long been known that this wax could be extracted with various organic solvents, but, no sustained interest has developed previously except in war time when foreign vegetable waxes were much in demand and difficult to obtain. Our Company has a continuous process for extraction of the cane wax from the muds in its Cuban factories and this crude wax is shipped to Gramercy and refined in a special plant on our own property. The wax has many uses such as floor polishes, carbon paper, and the like where other vegetable waxes are employed. It may be of interest to all of you to see samples of this product which is unique in that it is the only refined cane wax that any of you have ever seen (in fact that is obtainable anywhere in the world) that is made to specifications in commercial volume.

IN THE FIELD

(Continued from page 308)

three auto gas valves in gas supply to burners to maintain 130° F cane temperature.

Ductwork: Ducts shall be of 24 gauge galvanized iron sheetmetal. Joints shall be PoE S drive, pocket or bar slip joints. Provide splitters at each branch duct and vane all turns.

Shelves: To be of galvanized wire mesh—wire diameter to be 1/8" min. —fasten with screws.

Because of the shelves, ducts, and walk ways installed this year this unit will not have but about a 3½ ton capacity per 8 hour treatment. The Engineers and the committee felt that capacity had to be sacrificed for efficiency.

Fifteen Secondary Increase Stations, geographically located throughout the cane belt, have been selected by the committee for cane treatment this year. If this experiment proves successful, this treated cane will be distributed in the same manner as a newly released variety.

IN WASHINGTON

(Continued from page 309)

production of sugar or liquid sugar in excess of the proportionate share. In Louisiana and Florida, the proportionate share is established in terms of acres. In establishing proportionate shares, acre means the area of sugarcane grown for the production of sugar or liquid sugar and seed and the area of sugarcane abandoned and classified as bona fide abandonment.

If a producer having a proportionate share desires to market sugarcane for sugar or for seed in excess of his proportionate share, he may do so by forfeiting his entire Sugar Act payment. Likewise, a producer not having a proportionate share may market sugarcane for any purpose.

A processor-grower may grind non-proportionate share cane purchased from other producers and still be eligible for a Sugar Act payment if all of the conditions for payment have been met, such as payment of fair and reasonable prices for all sugarcane purchased from other producers and processed into sugar. If sugarcane is purchased for the production of high test molasses or syrup, the fair price determination is not applicable.

Question No. 5 was if sugar from such surplus acreage not under proportionate shares allocation be manufactured, would it have to be segregated per se or would it be permitted to be segregated and sold under proper and practical accounting procedures as might be agreed upon with the Commodity Stabilization Service. Under the Sugar Act, U. S. D. A officals said, there are no production limitations on processors. Moreover, there is no requirement

that sugar manufactured from non-proportionate share cane be segregated. A processor is, however, precluded from marketing sugar in excess of his marketing allotment if marketing allotments are effective or in excess of the quota, if marketing allotments are not effective, except for the purposes specifically exempt under Section 212.

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Title II of the Act is applicable to sugar used for any purpose except those specifically exempt under Section 212. Since sugar for industrial purposes other than for the distillation of alcohol is not specifically exempt, sugar used for plastics would fall into the same category as sugar used for pharmaceuticals, chemicals, etc. and is chargeable against the quota and marketing allotment.

UP FRONT

(Continued from page 307)

of Webster Parish; Richmond of West Carroll Parish; and Folkes of West Feliciana Parish.

Voting against the measure were: Broussard, Brown, Mrs. Bruns, Casey, Clark, Cook, Desmare, Engert, Hankins, Hickey, Huerstel, Lebreton, McGittigan, Murtes, Radovich and Welcker of Orleans Parish; Beeson of Jefferson Parish; Meraux of St. Bernard Parish; Hargrove of Allen Parish; Martin of Ascension Parish; Cole of Beauregard Parish; Cagle and Jones of Calcasieu Parish; Fontenot of Evangeline Parish; Jumonville of Iberville Parish; Allen of Jackson Parish; Hodges of LaSalle Parish; Dawkins of Livingston Parish; Wilson of Morehouse Parish; Teekell of Rapides Parish; Lehmann of St. Charles Parish; McDonald of St. Helena Parish; Becnel of St. John Parish; Pavy of St. Landry Parish; McLain of St. Tammany Parish; Cefalu and Husser of Tangipahoa Parish; Landry of Vermillion Parish; Shows of Washington Parish; Bernard of West Baton Rouge Parish; and Breedlove of Winn Parish.

All members of the House were present and cast their vote either for or against the Bill.

Acreage Hearing Held

The Government Hearing on 1955 Mainland sugarcane acreage allotments was held as per schedule in New Orleans on July 8th. About sixty people were present including nine cane producers from Florida.

The Hearing was ably conducted

by Mr. C. R. Oviatt, Assistant Chief of the Conditional Payments Branch of the Sugar Division, and the principal Government witness was Mr. Ole S. Homstad, who is Mr. Oviatt's Chief.

W. M. Grayson, and C. B. Kelly from the Louisiana office of the A.S.C. and McArthur of the Florida office were the other Government men attending the Hearing.

The activities started about ten o'clock in the morning when Mr. Homstad began reading a prepared statement containing the Government's suggestions regarding acreage allotments for 1955. When he was through, Mr. W. S. Chadwick presented the prepared statement of the Louisiana industry and he was followed by Mr. George Salley, and Mr. John Tiedtke of Florida who, except for a few minor changes, endorsed the brief presented by Mr. Chadwick. By noon the Hearing was over which must be some kind of a record for this sort of thing.

The brief presented by Mr. Chadwick is seventeen legal sized pages in length and we do not have space for it in *The Sugar Bulletin*. It stresses the fact that the only real cure for acreage cuts is an increase in the mainland sugar quota.

Opposition by the Administration has made it very unlikely that quota relief will be obtained before the 1955 cane crop is planted and acreage restrictions are, therefore, inevitable. Your League is doing everything in its power to keep the acreage reductions down to a minimum.

Wage Price Hearing Postponed

The Sugar Branch has announced that the date of the Wage-Price Hearing has been changed from July 21st to Wednesday, July 28th. The postponement is at the request of the Grower-Processor Committee and the American Sugar Cane League.

The time is 9:30 o'clock in the morning.

The place is the Grand Theater, in Thibodaux.

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THE SUGAR BULLETIN

Vol. 32—No. 21 AUGUST 1, 1954

Official Bulletin of the American Sugar Cane League of the U. S. A.

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

Political Power

We ran into a friend of ours the other day who was wondering why it is that every time the cotton farmers, or the tobacco farmers, or perhaps the peanut farmers want something, the Government goes all out to get it for them, but when the sugarcane and sugar beet farmers ask for relief it is like drawing eye teeth to get any action. When the present Congress convened last January they broke some sort of a record in passing a law to relieve cotton acreage injustices but later on when the sugar farmers went to Washington for help the Administration was as cold as the inside of King Tut's tomb.

The natural assumption would be that cotton and tobacco and peanuts are grown in a larger number of states than sugar is and that the folks in Washington, therefore, pay them more attention. Actually, this is not the case. The records of the U. S. Department of Agriculture show that cotton is grown in 20 states, that tobacco is grown in 20 states, and that peanuts are grown in 13 states, whereas sugar cane and sugar beets are grown in 24 states. These figures would seem to eliminate the domestic political angle because the sugar farmers should be able to get more support in Congress than any of the other crops mentioned.

The one big difference, as we see it, lies in the fact that almost half of the sugar requirements of the U. S. Mainland are supplied by foreign producers and the general idea right now is that our foreign friends must be taken care of at all costs.

St. James Field Day

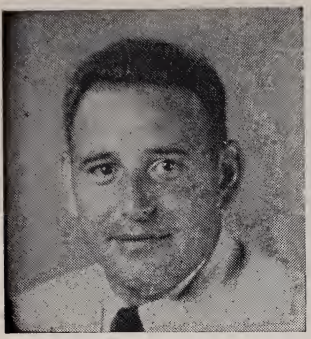
Mr. Joseph Lamendola, County Agent for St. James Parish, has advised us that the Annual Sugarcane Field Day of his Parish will be held on the F.A. Graugnard & Sons Farm at St. James, Louisiana on Thursday, August 5th.

Registration will begin at 8:30 a. m. and the tour of the fields will start at 9 o'clock. Some of the major tour stops will be the machinery demonstrations; hybrid corn grown on 42 inch rows; the newly released cane variety N. Co. 310; irrigation; and chemical weed control.

The guest speaker will be Dr. Thomas Arceneaux, Dean of the College of Agriculture of Southwestern Institute. Included in the list of other speakers are Mr. Joe Richard, Assistant Director of the Agricultural Extension Service of Louisiana State University and Mr. R. J. Badeaux, Director of Organization for the Farm Bureau.

C. B. Gouaux Retires

Our friend Mr. C. B. Gouaux, the agronomist who has been in charge of the Outfield Sugars in the sugar belt for years, and who has compiled an almost unbelievable amount of data on the performance of cane varieties in Louisiana during the 28 years that he has served the Louisiana sugar industry, has retired. Effective July 31, 1954 Mr. Gouaux's title will be "Agronomist Emeritus" of the Louisiana Agricultural Experiment Station.



IN THE FIELD WITH LLOYD LAUDEN

The 1954 Cane Crop

Our 1954 cane crop did not make its debut under the best of circumstances. The plant cane was very adversely affected by the lack of moisture at the time of planting. Many seed pieces were destroyed due mainly to dry rotting. This condition was also very favorable for diseases to take their toll. Although winter temperatures were not too severe at any time, a succession of late freezes added fuel to the fire to the already weakened seed pieces. Many seed pieces had completely exhausted themselves after having set shoots four or five times. The result of this caused many plant cane fields to be weak. Some plant cane fields were plowed out because of weak stands. In most instances good stubble fields were kept to replace this cane. Even though these adverse conditions existed, it is the writer's opinion that a few fields were plowed out too early. This is evidenced by fields that were kept for later decision which finally came up to a satisfactory stand.

The stubble cane was also affected by the succession of late freezes, not so much in stand but certainly in height.

As the middle of April approached, fields became green and stands filled in. But as the crop began to grow, the entire belt was struck by an early summer drought. The crop's growth came to a temporary standstill. This drought was more severe in the Western area, particularly in the New Iberia section. The effects of this drought in addition to the late start of the crop due to the late freezes are apparent now by growth measurement of the cane in most of the belt. In general, growth measurements of cane are below last year's for the same time by 6 to 12 inches. Recent reports indicate that growth measurements of cane in the lower Lafourche equal that of last year.

Although the crop got off to a very poor start we now have a better than average crop in the field from the standpoint of tons per acre. It is not intended here to infer that we have a crop in the field comparable to the 1953 crop.

The latter part of June and the month of July has completely changed the outlook of this crop. Those who predicted 18 tons per acre earlier are now one to two tons per acre higher in their present predictions.

There are several factors that may have influenced the recovery of this crop as compared to other cane crops. This cultivating season afforded the best opportunity for excellent cultivation. Most farmers used as much or more nitrogen as was recommended and placed this down in properly prepared soil. The more recently released better varieties are now in greater acreage throughout the belt. Some reward is being realized from the control of Johnson grass. Because of acreage restrictions the worst lands are not in cane. The recent heavy rains throughout the belt, and frequent

(Continued on page 334)

IN WASHINGTON WITH JOE FERRIS

Tribute to Ellender

Senate leaders paid Senator Ellender one of the highest compliments a Senator can get from his colleagues when they refused to consider the farm bill in his absence. Action on the bill was deferred until after the Louisiana primary elections.

Senator Ellender, ranking Democrat and former Chairman of the Agriculture Committee, is an outspoken, hardhitting opponent of flexible price supports. The bill awaiting Senate action would continue present mandatory 90% of parity supports on cotton, corn, wheat, peanuts and rice for one more year. It would raise supports on dairy products from the present 75% to 85% of parity and, in addition, it would order mandatory price props for oats, barley, rye and grain sorghums and provide for a "two-price" system for wheat.

Although the House has passed its version of the farm bill, Senate action is doubtful. It was pointed out in this column some weeks ago that unless Senator Aiken, Chairman of the Committee, was successful in obtaining amendments which would bring the bill more nearly in line with the administration's ideas, he would rather have the 1948-49 flexible laws go into effect after this year's harvest than to have the proposed new Senate bill enacted into law.

If no new legislation is passed this session, the 1948-49 law automatically becomes effective.

Final Marketing Allotments

Despite heroic efforts by the Sugar Division to issue the final 1954 marketing allotment order in time for publication in the Bulletin, the July 25th deadline could not be made. It is hoped to have the order out by August 1st, however.

Cubans Direct Consumption Sugar

The U. S. Department of Agriculture announced that after the close of business July 21, 1954, certification by the Department would be required before any sugar from Cuba may be entered for direct consumption.

The requirement, which will remain in effect until January 1, 1955, has become effective because more than 80 percent of the quantity of direct-consumption sugar which may be entered in 1954 from Cuba has already arrived. The certification method is a means of preventing entries of sugar in excess of the quota.

Application for entry of such sugar must be submitted to the Sugar Division, U. S. Department of Agriculture, for approval by the Department prior to the entry of the Cuban direct-consumption sugar. Heretofore, in 1954, applications were filed directly with the Collectors of Customs at the port of entry.

Certifications of Cuban raw sugar for further processing will not be required until 80 percent of the over-all quota for Cuba has been entered and notice thereof has been published in the Federal Register.

On July 15, 1954 Cuba had entered 67.6% of her raw sugar quota.

RECENT DEVELOPMENTS IN THE CULTURE OF SUGARCANE IN LOUISIANA

Alvan L. Dugas, Louisiana Agricultural Experiment Station
Presented at March 19 Meeting of Louisiana Academy of Science, Lafayette, La.

Louisiana now produces about 450,000 tons of sugar annually—a far cry from the 47,000 tons of sugar produced in the late twenties. This fabulous increase didn't just happen. It is the result of an almost continuous research program, both private and governmental, which has prevailed since its inception in 1725. Although there has been some significant advancements in the culture of the crop, the manufacturing of sugar, and the use of by products in recent years and perhaps adequate to protect the industry against such catastrophes as were experienced in the past, there are still many problems unsolved. There is a pressing demand for more research to help the industry through the present squeeze between rising costs of production and declining sugar prices.

History of Research Leading to Advancements In Sugar Cane Culture

From the time that Louisiana entered the sugar cane picture about the year 1725, when Bienville found that the colonists were making and drinking a rum-like concoction obtained by fermenting the juice from sugar cane, until Etienne DeBore successfully manufactured sugar in 1794 from his cane crop grown in New Orleans near the present site of Audubon Park, there was much study, trial, and mostly failure. But finally this preliminary research paid off for DeBore on a scale large enough to influence the future of Louisiana.

After this epic development the sugar industry expanded and in the earlier years of its existence, cane varieties were imported from remote parts of the world by farmers and individuals working for the development of the industry. The first federal appropriation for the introduction of new canes was made in 1858, the year that cane rot nearly ruined the growers.

The sugar business came close to complete destruction when the "damn Yankees" invaded the sugar lands during the Civil war. Through research investigations and experiments by some of the planters who refused to be beaten, the industry was again reconstructed. During this trying period, a cane planter made a trip to Java and brought back a successful cane variety, and in 1893 two more varieties were introduced.

Back in 1885 the cane planters founded their own Experiment Station at Kenner, Louisiana with Dr. W. C. Stubbs as its director. Louisiana State University took over the station two years later, moving it to Audubon Park in New Orleans. Work was conducted in the fields of chemistry, sugar engineering, bacteriology, plant breeding, and entomology. In 1925, the Sugar Experiment Station was transferred to Baton Rouge and in 1928 it became an integral part of the Agricultural Experiment Station as it is today.

In the early twenties, Louisiana was growing about 250,000 acres of cane annually. In 1919, mosaic disease was discovered in the canes growing in Louisiana and together with red rot, root rots and the sugarcane borer, struck viciously in 1925 and '26 and dwindled sugar production to a mere 47,000 tons. Only 73,000 acres were planted to sugar cane for sugar in 1927, which was the lowest acreage ever harvested by the modern sugar industry. It was during this period that

(Continued on page 328)

SHIFT OF SCIENTISTS IN SUGAR CROPS, SOILS AND RUBBER RESEARCH

Dr. Hewitt M. Tysdal, long engaged in plant breeding research in the U. S. Department of Agriculture, succeeds Dr. Cecil H. Wadleigh as head of the Sugar Crops Section, Field Crops Research Branch, Agricultural Research Services, Plant Industry Station at Beltsville, Maryland. Dr. Wadleigh becomes head of the Soil-Plant Relationship Section, Soil and Water Conservation Research Branch, also at the Beltsville station.

Dr. Tysdal began research work for the Department in 1928, with headquarters at the Nebraska Experiment Station, where he carried on cooperative studies in alfalfa improvement until 1943 when he was transferred to the Plant Industry Station, in charge of all research on alfalfa improvement. In 1948 he was put in charge of the Department's Salinas (Calif.) guayule program designed to improve that plant and its culture as a possible efficient source of natural rubber. He is leaving this work to take the assignment as head of Sugar Crops.

Dr. Wadleigh, before his call in 1951 to Plant Industry Station at Beltsville, was for 10 years a member of the scientific staff of the U. S. Regional Salinity Laboratory, Riverside, Calif., and has contributed much to the knowledge of salt tolerance of plants. Earlier in his career he was an assistant professor of agronomy at the University of Arkansas.

Dr. Tysdal has made significant contributions to alfalfa and guayule improvement and has devised better plant breeding techniques for use in crop research. He is best known for his development of the polycross breeding method in which many plants are intercrossed, seed being saved separately from individual mother plants. By test and comparison of the various progenies, the mother plants most desirable for breeding purposes are found. The individual parent plants that can contribute to yield, quality and disease resistance that are thus located are then intercrossed to produce the improved variety. Dr. Tysdal used the polycross method with great success in alfalfa improvement in Nebraska, Ranger being best known of varieties resulting from this breeding work. Sugar beet breeders of the Department have made use of the polycross method to improve the sugar beet.

Dr. Wadleigh is a native of Gilbertville, Mass., has a B.S. degree from Massachusetts State College, M.S. from Ohio State, and a Ph.D. (in plant psysiology) from Rutgers where he was an assistant during his studies there, and was professor of agronomy at the University of Arkansas for five years before going to the Salinity Laboratory. He is known in plant and soils research fields for his knowledge of mineral nutrition, carbohydrate and nitrogen metabolism, water relations and salt tolerance. He is a member of the American Society of Agronomy, the American Society of Horticultural Science, and numerous other scientific societies; in 1951 he was president of the American Society of Plant Physiologists. In his two years directing the Division of Sugar Plant Investigations, he inaugurated several very important projects in sugarcane and sugar beet improvement, developed the facilities for research at field stations, and exercised strong leadership in the cooperative work between the industry and the Department of Agriculture.

Dr. Tysdal was born at Lee, Ill., has a B.S.A. degree from the University of Saskatchewan, an M.S. from Kansas State Agricultural College, was a fellow of the

(Continued on page 334)

SUGAR MARKET STATISTICS THROUGH JULY 26, 1954

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.15	6.18	6.42
QUOTA RAWS DELIVERED NEW ORLEANS	6.12	6.16	6.40
WORLD SPOT RAWS (In Cuba)	3.15	3.23	3.68

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Sept.	Nov.	Mch.	May
Today	5.64	5.65	5.42	5.45
1 Month Ago	5.73	5.73	5.52	5.54
1 Year Ago	5.90	5.93	5.56	5.60

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	†423,335 bags	1,770,688 bags
Godchaux	129,605 bags	1,068,501 bags
Colonial	62,377 bags	1,035,462 bags
Henderson	70,542 bags	405,357 bags
Southdown	17,000 bags	75,862 bags
South Coast	46,375 bags	417,634 bags
Sterling	None	None
Supreme	74,165 bags	507,846 bags
Totals	823,399 bags	5,281,350 bags

† Includes 240,000 bags (approximately 100 lbs.) from Hawaii.

DEVELOPMENTS

(Continued from page 326)

vigorous cooperative research efforts by the Louisiana Agricultural Experiment Station, the United States Department of Agriculture, and the American Sugarcane League resulted in the importation of several disease-tolerant varieties and actually saved the industry from total destruction. A cooperative program by these three agencies was initiated to breed, test, increase, and distribute cane varieties. Louisiana now produces its 450,000 tons of sugar annually from varieties bred at the Canal Point, Florida, Station and grown according to the more recent developments arising from the broad research program covering all phases of production.

It is only possible here to briefly discuss the more recent advancements in knowledge and application of the principal phases of sugar cane culture.

Land Preparation and Cultivation Practices

Drainage and wet, cold weather during the winter months pose major problems to the cane growers. In an effort to overcome these, cane is planted and grown on ridges or rows 12-15″ high and spaced six feet apart to permit cultivation and other cultural practices with the big, heavy tractors and equipment especially designed for the cane fields. Drainage ditches are spaced about every 20 to 40 rows, depending on soil type, the spacing being closer in the heavy black soils. The ditches empty into laterals which usually feed through still larger ditches into drainage canals leading to swamps or lake areas. A major cost item in cane production is the maintenance of this extensive network of ditches and canals.

The agricultural engineers, in recent years, have directed considerable attention to ponded areas or pockets which are in evidence in so many fields. It has been found that there is a definite relationship between the amount of pockets which will pond water and the yield of sugarcane. Many factors have contributed to this unsmooth pocketed surface which ponds water, such as

the lack of smoothing the field after tillage to remove implement scars; the inadequate disposition of spoil from ditch excavation of both outlet and field drains, leaving barriers and depressions which pond water; and scars left by flood waters in alluvial areas in the form of sloughs and depressions accompanied by an uneven deposition of silt.

A study of the problem revealed that there were two approaches; one, to install additional field ditches to drain each pocket; the other, grading or turtle-backing, and smoothing the land. Since there was already one mile of ditch to every twenty acres of land in the cane-growing area the latter appeared more feasible.

Today there are more than 1,200 land leveler machines on farms in Louisiana. Land leveling and smoothing after grading have been found to increase field yields of sugarcane by more than five tons per acre. Some lands which were abandoned for cane production have been returned to profitable cultivation.

Agricultural engineers are presently working on another phase of research which has attracted much attention because it is in such direct contrast with conventional methods. It is the planting and cultivation of sugar cane on the flat instead of on rows. Although this development is not in use or even recommended, it has shown considerable promise in reducing cost of quater drain maintenance, in lowering cultivation and drainage costs, in satisfactory weed control, and in significant gains in yields over row cultivation.

Insects and Diseases

Without a doubt insects and diseases have been the two most important contributing factors to most of the sugarcane industry's failures throughout the many years of its existence.

The sugarcane borer was considered a very serious insect pest of cane, back in 1890, and is still perhaps the number one problem today facing the cane growers. The three mild winters in succession favoring the successful overwintering of the borer, together with the change in varieties to more susceptible ones, has increased the seriousness of this insect many fold. It was previously thought to be a serious problem on about 30,000 acres of cane, but with the increase and spread which have taken place the past two years and the extremely heavy and widespread carryover in the fields at the present time, as much as 200,000 acres may be affected seriously this coming season. Successful overwintering of large populations of borers is also attributed to the extensive amount of cane pieces and stalks that are left in the fields during harvest under the present day speedy, mechanized system.

Research has given the growers several methods of combatting the borer which are being put into more extensive use each year. About 65,000 acres of cane and corn were dusted with cryolite or Ryania by airplane for control of the borer in Louisiana in 1953. Although savings amounted to millions of dollars, losses were nevertheless quite heavy on at least 150,000 acres of cane. In January, February and March, 1954, growers applied cultural control recommendations for killing overwintering borers in stubble fields over nearly seventy-five per cent of the acreage. Growers made artifical releases of 60 million Trichogramma egg parasites in cane fields in 1953 to help in the suppression of this pest. Preparations are being made to have 400 million available for release this year. Some of the large farms or even groups of plantations reported an average yield increase of 4-5 tons of cane per acre from their borer control program in 1953.

Although soil chemicals are not being used commercially for control of soil insects and small animals,

the results of research are showing substantial gains from their application. Recommendations should be forthcoming in the near future.

The well-known story of the devastating roles played by such diseases as mosaic and red-rot in the history of sugarcane production is familiar to most everyone. Losses were incalculable before the breeding of resistant varieties solved the problems. Contrary to a rather generally accepted belief, successful breeding of borer-resistant varieties has not been accomplished. The varieties grown to-day are perhaps as borer susceptible as any ever grown.

Two previously unreported diseases of sugarcane were found in Louisiana within the last two years. A growth-retarding virus disease better known as stunting disease, and Sclerospora disease have been definitely identified. It is not known how long these diseases have been with us, but it is thought that the stunting disease may have been here a long time and contributed greatly to the failure of many varieties of cane. Hot air treatment of seed cane for eliminating the virus has already been inaugurated on a limited scale. Further research may yield answers to many phases of the disease not yet understood, and produce means for preventing the running out of varieties.

Breeding Sugar Cane Varieties

The cane breeding program to produce new varieties of sugarcane to replace the ones which decline in productiveness to the point that it is uneconomical to grow them is said to be the backbone of the sugar industry. Although the plant breeders tells us that sugar cane varieties do not degenerate, in a period of several years all varieties exhibit the same loss in vigor, growth, and yielding capacity and must necessarily be replaced by new ones bred for hybrid vigor, stubbling qualities, resistance to diseases, resistance to cold, high sucrose, and adaptability to mechanical field operations. For reasons not clearly understood varieties selected for these sterling characteristics lose them in due time.

Since the turn of the century sugarcane breeding has become increasingly important and hybridization stations have been established in practically every major sugar producing country in the world. For many years Louisiana's only source of seedling material was the Canal Point, Florida, station. Only in recent years has true seed of sugarcane been produced in Louisiana and there is now little doubt that seedlings can be produced in large numbers in most years at Grand Isle. It has been found that most of the varieties which are considered to be good parents will flower at Grand Isle when environmental conditions are favorable.

The first requisite of a breeding program is the collection of parental stock having in the aggregate a varied assortment of characteristics of value and growing them in a desirable locality such as Canal Point or Grand Isle for evaluation and as breeding stock for use in the crossing work. It is assumed that by hybridizing a particular parent, which may be a wild form, having the characteristics in question, with commercial varieties by a system of crossing, selection, and backcrossing, new varieties may be developed that retain the good qualities of the commercial cane and at least a measure of the desired characteristics of the first parent. The next step in the production of sugar cane seedlings, coming at flowering time, is the determination of sex of plants and planning and making desired crosses. Then comes the harvesting of seed, planting and germination of seed, growing of young seedlings in flats, transplanting seedlings from flats to pots, inoculating with mosaic virus to eliminate susceptible ones, setting out the seedlings in the field, care and cultivation of seedlings and

finally, selection and increase of desirable hybrids. However, much more time and testing is involved before a seedling ever reaches the ultimate goal, a commercial variety of cane. Sugarcane breeding is a long, drawn-out affair and quite expensive when you consider that only 1 out of about 250,000 seedlings actually becomes a commercial variety.

There has been considerable advancement in the knowledge of hybridization techniques, as evidenced by a tremendous production of seed at Canal Point the past season. To obtain true seed requires flowering of sugarcane, and seed producing programs have existed only where sugarcane flowers naturally year after year. In view of this fact there has been an urgent need for the knowledge of how to artificially stimulate flowering at will, particularly in Louisiana, in order to elminate the hazards incident to the weather, and to permit controlled crossing. This has recently been accomplished at L.S.U. by gradually shortening the day length (or increasing night length) through the use of a photoperiod house. Six commercial varieties were forced to flower and produce seed. This is a definite contribution to the breeding program and its possibilities are being vigorously pursued at the present time.

Chemical Weed Control

In recent years, the use of chemicals for the control of weeds in various crops has gained great inpetus. Here in Louisiana, before the mechanization of sugar cane cultivation, hand hoeing was the principal means of fighting weeds. The shortage of labor during the war years speeded up mechanization and resulted in a further reduction of hand labor. Inadequate cultivation and care of fields had much to do with significant build-up and spread of some of the weeds, especially Johnson grass. The available practices then, involving shaving and flame cultivation, were of little value in controlling the grass. With the advent of effective weed chemicals, the possibilities of economical control were enhanced. A combination of herbicides and certain cultural practices appeared to offer promise to reduce some of the more important weed populations to a reasonable level and to create better conditions for control of weeds in the growing crop.

Rapid strides have been made in the last three years in the control of Johnson grass, by far the most serious weed in the sugar cane fields of this state. The demand for effective measures of suppressing this grass was great, since thousands of acres of good cane land had been abandoned because a solid stand of Johnson grass had taken over, and infested fields still in cultivation were showing consistently lower yields, many to the point of unprofitable operation. A quite serious implication which faced the researchers on the Johnson grass problem was the fact that this perennial is capable of producing large quantities of seed. Examinations of samples taken from heavily infested plantations indicated the presence of 5,000,000 to 30,000,000 viable seeds per acre. Each seed is capable of producing a plant which in turn produces rhizomes, one of the means which the plant has of surviving the winter. It is interesting that examinatons of live rhizomes in badly infested fields have shown as many as 90 miles of such rhizomes per acre. On many farms, ditchbanks are solidly infested and offer an excellent source of spread into the cultivated rows.

The successful control of this weed has been accomplished with a combination of certain chemicals or herbicides and cultural practices to accomplish various phases of attack, such as, (1) the destruction of large plants in the fields of sugarcane, (2) the prevention of reinfestation from seedlings germinating from seed in the soil, (3) the reduction

of seed population in the soil by preventing the deposition of new seed until those present are no longer viable, (4) the eradication of large plants and rhizomes on ditchbanks and headlands, and finally, (5) the suppression of competition between Johnson grass and cane in infested fields to insure production of a profitable crop.

The program which has proved to be effective and is being used on thousands of acres of infested lands includes fallow plowing six to eight times during the summer to kill Johnson grass plants and their rhizomes before the cane is planted, and then a combination fall and spring treatment of TCA and 2, 4-D and cultivating practices to control seedlings in the plant cane, followed by applications of TCA and 2, 4-D along with cultural measures in the stubble crop. The yields of some plantations with critical Johnson grass problems have been increased by as much as 10 tons per acre by following a conscientious control program.

Alligator weed and broad-leaved weeds such as tie vines and cypress vine are being effectively controlled with 2, 4-D.

Fertilization

With the increase in knowledge of the sugar cane soils in regard to available nutrient content and the conditions under which varying analyses exist, more and more fertilizer is being used each year in the cane belt. It has been found that the soil nitrogen is generally low, and that in many soils the easily soluble phosphorus was deficient to the point that response could be expected from addition of phosphates. The same was true of potassium in about half the soils examined. At one time it was thought that the cane soils needed nothing but nitrogen and only rather low applications of it.

As much as 100 pounds of nitrogen, 40 pounds of P_2O_5, and 60 pounds of K_2O are being used on certain soils. It has been found that nitrogen may be supplied from any available solid or liquid source. There has been a decided switch to anhydrous ammonia as the source of nitrogen throughout the cane growing area since it facilitates easier handling, more accurate rates of application, and is a cheaper source per unit. The heavier application of nitrogen calls for potash and phosphorus to balance the fertilizer application.

It is also now known that full benefits from heavy fertilizer applications can be obtained in many cases only if the depth of the seed bed is increased to promote greater aeration, deeper root penetration, and supply more available moisture. The need for deep tillage is being keenly felt at the present time.

A step forward in returning organic matter to the soil is taking form in the interest being shown in a top shredder to cut the tops into small pieces as a sugarcane borer control measure and also as a means of replenishing the humus of our overcropped soils.

Mechanization

Mechanization of the sugar cane farms in Louisiana has increased rapidly since 1940. The major factor contributing to this steady advancement in mechanization has been the shortage of labor during the war years, resulting from the demands of the military forces and war-time employment in industry. Although the labor situation improved somewhat after the war, it is still far from what it was in prewar days. Each successive advance of mechanization has been accompanied by a decrease in the labor and power requirements necessary to grow an acre of sugarcane. This development is of great importance to the sugar cane planters because complete mechanization means lower costs of production and—of equal significance—less dependence upon large numbers of laborers required to cultivate, plant and harvest the crop.

This rapid advancement in mechanization of sugarcane farms can be attributed to the ingenuity of individuals in private industry who have responded with a new machine or tool each time the demand has been sufficiently great. With the development of tractors especially built for the six-foot rows and special cultivation practices for sugarcane, came the many specifically designed tools to accomplish the varying tasks required of them. Mules have almost become extinct on cane farms and about the only use that is made of the one or two remaining on most farms is pulling the mechanical quarter drain machine or a regular plow for opening drains. Then came the combination loader and ditching machines, ditch bank burners, land levelers, and perhaps most important of all the mechanical harvesting machine. The one principal phase of sugar cane culture which at the present time is in dire need of being mechanized is cane planting. A mechanical planter will no doubt be forthcoming, since widespread interest has started research in this direction.

About 95 per cent of all cane grown in our state today is cut with mechanical harvesters. Only about 5 man-hours per acre are required with a mechanical harvester as compared to 80 hours of man labor to harvest one acre by hand. The harvesters in general use cut the cane tops and bottom with the trash on and pile three or four rows into one heap on the ground. The trash is burned if weather permits. If not, mills are forced to accept cane with all of the trash and with considerable mud. This brings about many milling problems which result in serious loss to both the grower and processor. One machinery company has felt it necessary to turn its attention to detrashing cane with a harvester and loading it directly into carts.

New complete harvesters which successfully cut, clean and load cane in one operation were tested the past harvest season, and are destined to replace the present harvesters in the not too distant future.

Since there are certain limitations to mechanization of small family-type farms in the production of sugar cane, with the advance in this direction has been a trend toward larger farms. Besides the trend to an increase in acreage per farm, the investments per farm and per acre are increasing substantially and so is the standards of living showing marked progress.

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Although the Louisiana sugar cane industry has been criticized on occasions as being an inefficient one, in very few agricultural industries has there been such a rapid increase in farm mechanization; expansion in volume of business per farm and per mill; and development and acceptances of advances in cane culture and manufacturing as have occurred in the Louisiana sugar cane industry in recent years. Only through an even more vigorous research program will the industry maintain its stable condition despite increasing costs and declining prices.

SCIENTISTS

(Continued from page 327)

American-Scandinavian Foundation (1927-1928) for research in Sweden, and has a Ph.D. in agronomy and plant breeding from the University of Minnesota where he became an instructor for one year before beginning joint work for the U. S. Dept. of Agriculture and Nebraska Agricultural Experiment Station. He carried on his agronomic and breeding work in alfalfa for a considerable number of years. From 1943-46 he was principal agronomist in charge of alfalfa breeding at the Plant Industry Station. He was in charge of the guayule rubber station in California until May 15 of this year when he took over his new assignment on sugar crops. Dr. Tysdal is a fellow in the American Association for Advancement of Science and the American Society of Agronomy, and is widely known for his special knowledge in the genetics and improvement of crop plants.

IN THE FIELD

(Continued from page 324)

scattered showers followed by hot days and nights are promoting maximum growth.

The July 1 estimate of the United States Department of Agriculture indicates the crop will probably be about 19½ tons per acre. This yield would amount to about one ton per acre less than the 1953 crop.

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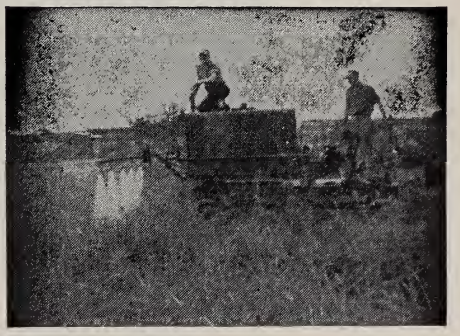

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THE SUGAR BULLETIN

l. 32—No. 22 AUGUST 15, 1954

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SPECIAL STATISTICAL ISSUE

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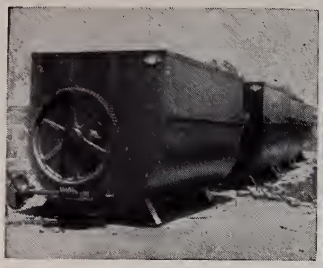
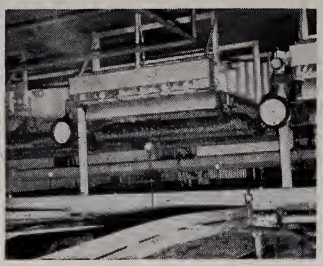
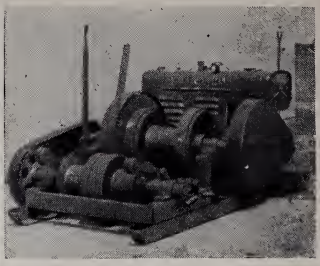
Published on the First and Fifteenth of each month
in the interests of the Domestic Sugar Cane Industry

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414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
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THE SUGAR BULLETIN

CROPLAND—PROPORTIONATE SHARE—PLANTED ACRES OF LOUISIANA SUGARCANE FARMS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES, FROM A.. A. A. REPORTS

PARISHES	Cropland (Acres)				Proportionate Shares (Acres)				Total Planted (Acres)			
	1950	1951	1952	1953	1950	1951	1952	1953	1950	1951	1952	1953
Ascension	24,418.1	24,348.5	23,874.8	24,050.4	14,169	15,148.7	13,923.3	13,402.1	14,483.9	15,233.4	14,040.8	13,461.1
Assumption	47,497.8	46,968.3	47,527.4	46,315.7	30,853	30,955.0	29,900.3	31,428.3	30,883.5	30,955.0	29,963.8	31,431.3
Avoyelles	6,809.4	6,383.8	6,238.2	7,945.1	2,138	1,970.0	1.735.4	2,147.6	2,167.5	1,970.1	1,901.8	2,352.0
East Baton Rouge	1,288.7	1,288.7	1,288.7	822.9	312	331 5	388.3	83.6	312.1	444.3	388.3	83.6
East Feliciana				50.0								.5
Iberia	73,199.2	77,256.6	76,181.6	75,695.0	38,372	38,389.3	39,340.1	40,589.2	38,748.5	38,477.6	39,706.8	40,635.9
Iberville	41,234.7	38,382.9	37,296.2	38,822.9	19,841	20,727.2	19,510.9	20,185.7	21,238.9	21,478.7	20,451.8	20,802.8
Lafayette	22,698.0	22,240.3	21,106.5	17,040.3	8,685	8,728.8	8,874.7	8,901.7	8,735.4	8,779.6	8,925.9	8,956.0
Lafourche	54,266.3	53,465.8	49,936.6	49,659.5	29,246	29,501.1	29,040.1	29,895.3	29,246.2	29,501.1	29,040.1	29,895.3
Pointe Coupee	31,308.3	34,783.4	26,893.1	26,085.7	10,326	10,473.5	9,581.4	8,857.7	10,325.9	10,473.5	9,581.4	8,857.7
Rapides	6,152.3	5,042.8	5,087.8	3,274.3	1,335	1,360.5	972.9	708,9	1,400.9	1,424.1	1,083.8	755.8
St. Charles	3,390.8	2,748.3	2,594.0	2,527.4	1,531	1,549.4	1,699.6	1,529.3	1,531.0	1,549.4	1,699.6	1,529.3
St. James	31,273.3	28,403.0	29,522.5	30,662.5	17,325	17,865.4	17,482.9	17,299.7	17,331.3	17,865.9	17,482.9	17,299.7
St. John	25,944.0	24,701.8	25,489.1	22,706.3	15,048	14,898.9	15,044.6	15,179.7	15,761.6	14,898.9	15,704.2	15,715.4
St. Landry	5,039.0	4,139.9	879.0	886.3	834	515.7	172.1	184.9	1,073.4	521.3	398.3	364.5
St. Martin	46,739.8	45,732.1	43,837.7	38,791.7	16,918	18,520.1	18,872.2	19,475.8	17,028.4	18,615.0	18,987.9	19,520.3
St. Mary	58,905.2	59,694.6	60,883.2	58,170.0	33,892	36,075.4	36,877.5	37,863.8	35,410.9	36,075.4	36,877.5	37,866.3
Terrebonne	56,851.7	72,859.7	54,120.4	56,197.8	35,473	34,616.0	33,393.7	35,032.2	35,612.1	34,640.0	33,403.7	35,052.6
Vermilion	17,448.4	17,475.6	15,781.6	14,620.6	3,920	3,439.8	2,760.9	2,633.2	4,502.5	4,437.7	4,164.7	4,018.6
West Baton Rouge	25,631.6	25,187.6	24,813.3	23,891.4	13,971	14,172.2	13,489.0	13,527.3	14,356.6	14,174.2	13,620.8	13,700.4
West Feliciana	14,567.6	12,655.6	12,655.6	10,829.3	2,392	1,785.8	1,686.4	1,778.1	2,391.7	2,412.8	1,686.4	1,778.1
TOTAL	594,664.2	603,759.3	566,007.3	549,045.1	296,581	301,024.3	294.746.3	300,654.6	302,542.3	303,928.0	299 110.5	304,077.2

PROPORTIONATE SHARE ACRES HARVESTED FOR SUGAR—YIELD OF SUGARCANE PER ACRE AND YIELD OF RECOVERABLE SUGAR PER ACRE OF LOUISIANA FARMERS PARTICIPATING IN THE SUGAR PROGRAM (SUGAR ACT OF 1937) BY PARISHES FROM A. A. A. REPORTS

PARISHES	Proportionate Shares Harvested for Sugar (Acres)				Yield of Cane Per Acre Tons				Yield of Recoverable Sugar per Acre CWT			
	1950	1951	1952	1953	1950	1951	1952	1953	1950	1951	1952	1953
Ascension	13,170.9	13,563.3	13,175.3	12,681.6	20.60	15.85	20.30	20.60	35.62	21.61	33.11	36.39
Assumption	28,672.6	26,461.0	27,799.1	29,677.1	19.11	17.80	22.14	22.35	33.97	24.50	35.26	39.40
Avoyelles	2,078.6	1,672.8	1,571.2	2,026.6	19.56	13.82	16.08	15.09	34.79	19.82	24.21	24.94
East Baton Rouge	300.9	314.6	375.1	82.1	14.09	17.12	20.46	18.22	23.69	22.79	30.38	31.76
East Feliciana				.5				13.60				23.44
Iberia	35,154.9	32,640.1	36,253.1	37,194.1	18.55	16.01	17.74	17.87	33.01	21.90	28.48	31.56
Iberville	18,182.6	17,638.9	18,135.9	18,765.1	18.49	18.93	21.65	22.34	32.16	25.98	33.80	37.55
Lafayette	7,857.7	7,957.8	8,212.9	8,302.3	16.91	15.71	20.02	19.69	30.34	19.96	30.56	33.85
Lafourche	27,205.3	24,963.3	27,370.5	28,502.8	18.76	17.71	22.24	21.54	33.09	25.55	36.35	37.43
Pointe Coupee	9,528.9	9,158.1	9,225.7	8,291.3	17.35	17.23	18.95	21.91	30.03	24.76	29.94	37.11
Rapides	1,297.2	890.5	935.7	685.9	24.57	17.03	22.26	22.15	43.33	23.50	31.49	38.47
St. Charles	1,450.9	1,284.7	1,620.8	1,437.0	18.68	18.43	20.72	20.15	31.75	26.55	33.50	33.98
St. James	16,252.2	15,808.3	16,486.3	16,366.7	19.78	15.99	21.92	22.34	34.21	21.88	35.76	38.98
St. John	14,085.0	12,745.0	13,812.5	14,252.0	21.17	18.20	22.59	21.29	38.13	25.94	37.44	37.33
St. Landry	809.0	439.4	154.1	166.9	14.07	13.71	17.55	18.70	23.99	19.33	29.08	31.87
St. Martin	14,888.7	13,887.4	17,795.1	18,105.6	18.84	14.65	20.35	17.13	33.00	20.25	31 53	29.74
St. Mary	31,252.4	32,174.1	34,037.7	34,918.2	22.07	19.21	19.14	19.06	41.09	28.23	32.39	33.69
Terrebonne	32,569.2	29.978.5	30,947.8	32,716.8	19.07	16.71	21.40	21.70	33.39	25.36	36.38	39.74
Vermilion	3,550.1	3,040.9	2,460.3	2,295.8	17.72	16.53	16.79	15.51	31.24	21.70	26.31	26.00
West Baton Rouge	12,473.9	11,646.8	12,388.8	12,259.3	21.03	18.67	23.37	24.20	37.09	27.33	36.34	41.66
West Feliciana	2,061.1	1,709.4	1,627.0	1,513.9	21.86	21.96	25.03	25.66	36.07	33.25	39.22	41.78
TOTAL	272,842.1	257,974.9	274,384.9	280,241.6	19.47	17.30	20.65	20.55	34.52	24.43	33.40	35.95

RECAPITULATION OF FINAL REPORTS OF LOUISIANA SUGAR CANE FACTORIES, CROPS 1944-1953, By Mr. Grayson of P. & M. A.

Total for State Factories	70	63	60	59	59	54	54	54	54	54
Year	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
Crop Days	75.65	74.50	66.20	68.50	78.8	67.4	64.2	54.2	64.24	69.5
Lost time % total time	23.74	21.28	19.44	28.42	22.98	16.45	11.57	15.32	11.81	14.56
Cane: Tons ground, gross weight	4,928,686	5,149,266	4,483,843	4,045,964	5,459,637	5,210,195	5,550,549	4,663,774	5,869,257	6,054,764
Tons ground, net weight				3,917,100	5,256,644	4,983,982	5,311,857	4,462,854	5,666,917	5,759,310
% Total Cane Ground, Gross Weight	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Tons Ground per Hour	51.59	55.40	55.57	55.48	60.47	67.63	71.52	74.34	77.08	74.53
Extraction N. J. % Cane	73.27	73.47	72.32	70.61	71.90	72.86	72.21	72.09	72.74	71.23
Sucrose Extraction, %	90.13	91.08	90.06	89.06	89.58	90.57	90.10	89.45	89.76	88.97
Maceration % Cane	16.13	13.13	16.02	19.40	17.74	17.63	17.04	13.89	15.69	18.56
Fiber % Cane	14.25	14.17	14.84	15.15	14.95	14.58	14.96	14.50	14.35	14.78
Java Ratio	77.31	76.76	75.82	75.39	75.83	76.66	76.18	74.79	76.93	75.61
Analysis										
Crusher Juice Brix	16.32	16.19	16.50	16.53	16.32	16.66	17.19	15.39	16.93	17.32
Crusher Juice Sucrose										13.64
Brix Factor (Final Report)	97.43	97.34	97.21	97.52	97.12	97.06	97.15	97.27	97.06	97.00
Sucrose Factor (Final Report)	95.05	95.18	94.40	95.14	94.45	95.30	95.04	94.57	94.95	94.43
Normal Juice Brix	15.90	15.76	16.04	16.12	15.35	16.17	16.70	14.97	16.43	16.80
Normal Juice Sucrose	11.93	11.86	12.31	12.33	11.91	12.37	13.03	10.80	12.22	12.88
Normal Juice Purity	75.03	75.25	76.74	76.49	75.14	76.38	78.02	72.14	74.38	76.67
Factory Syrup, Brix	58.08	57.41	57.20	56.92	57.22	58.56	58.24	56.91	58.81	58.13
Residual Juice Brix	6.34	6.40	6.51	6.27	6.50	6.23	6.50	6.60	6.67	6.37
Bagasse Sucrose	3.07	2.97	3.08	3.16	3.08	2.90	3.22	2.93	3.23	3.40
Bagasse Moisture	49.38	48.80	49.23	49.87	49.28	49.27	48.45	49.51	49.69	50.06
Bagasse Fiber	46.29	46.88	46.39	45.69	46.19	46.43	46.63	46.18	45.75	44.20
Press Cake Sucrose	3.81	4.02	3.98	3.86	4.18	3.68	4.10	4.42	3.81	4.21
Sucrose Balance										
Molasses, Sucrose % Cane	1.047	1.130	1.001	1.012	1.084	.996	1.132	1.261	1.164	1.105
Press Cake, Sucrose % Cane	.104	.104	.120	.168	.191	.147	.158	.165	.156	.180
Undetermined, Sucrose % Cane	.266	.212	.297	.365	.273	.211	.234	.228	.177	.269
Bagasse, Sucrose % Cane	.956	.853	.983	1.069	.997	.938	1.034	.920	1.014	1.137
Total Losses, Sucrose % Cane	2.373	2.299	2.401	2.614	2.545	2.292	2.558	2.574	2.511	2.691
Sugar, Sucrose % Cane	7.322	7.266	7.486	7.157	7.017	7.659	7.886	6.154	7.390	7.622
Total, Sucrose % Cane	9.695	9.565	9.887	9.771	9.562	9.951	10.444	8.728	9.901	10.313
Pounds 96° Sugar M&E Ton Gross Cane	152.50	151.37	155.95	149.10	146.19	159.56	164.29	128.21	153.96	158.79
Pounds 96° Sugar M&E Ton Net Cane						166.80	171.67	133.98	159.46	166.93
Gals. F. M. (B/S) M. & E. T/C 80 Brix	7.38	7.48	6.74	6.78	7.15	6.80	6.90	8.01	7.82	6.94
Boiling House Efficiency Number	96.64	96.04	95.64	93.73	94.39	96.97	94.45	93.16	97.83	94.61

LOUISIANA MILL REPORTS

Production of Sugars (tons, 2,000 lbs.), Syrup, 1st Molasses, 2nd Molasses, and Blackstrap—1944-1953

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
Raw Sugar 96°	259,324	232,442	180,954	211,305	298,371	308,866	331,156	215,730	325,929	358,424
Clarified	19,892	26,010	28,877	1,378	325	0	0			
Turbinados	40,405	56,585	53,162	16,243	22,325	26,856	35,527	26,078	36,294	37,635
Granulated	46,924	42,035	56,633	60,379	65,804	58,746	70,534	44,019	67,199	64,910
Washed Raws	0	0	0	xx0	0	0	6,248	4,273	8,393	6,373
String—Others	2,834	3,389	1,129	0	755	178	796		157	460
Total Sugars (Raw Value)	369,379	375,398	331,128	296,932	397,293	415,811	456,246	296,566	450,690	480,633
Sirup—Gallons	2,684,925	7,920,811	3,098,897	3,118,159	494,726	1,075,843	1,725,787	1,085,220	1,314,161	892,146
1st Molasses—Gallons	3,661,082	8,832,379	9,596,030	2,179,258	2,192,738	1,588,612	2,730,680	1,599,423	1,997,349	1,506,982
2nd Molasses—Gallons	3,260,918	6,348,928	3,993,164	2,966,514	1,823,747	1,725,655	1,608,557	1,684,990	2,079,561	1,451,038
Blackstrap (Actual Gallons)	28,716,392	28,456,351	21,231,304	21,676,476	33,279,520	30,121,524	32,703,162	32,202,814	39,030,897	36,330,800

xx Included in clarified production.

RESULTS OF SUGARCANE VARIETY TESTS IN LOUISIANA DURING 1953

By Leo P. Hebert, Research Agronomist, and R. J. Matherne, Research Agronomist, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture.

Methods employed by the U. S. Department of Agriculture in testing sugarcane varieties in Louisiana consist of planting replicated field experiments at 9 locations on different soil types. Promising unreleased varieties are compared with commercial varieties at different plantations on soil types considered representative of those of the Louisiana sugarcane district. Results of these tests for 1953 are briefly summarized in this report. During the course of the testing program free exchange of information with agronomists of the Louisiana State Agricultural Experiment Station makes it possible to more critically evaluate the performance of the varieties and this close cooperation continued in 1953.

Of special interest during the past year was the relatively long growing season which resulted in canes that were considerably more mature at harvest time than in recent years, especially early in the harvesting season; the continued good performance of C. P. 44/101, which is now in second place in the number of acres planted (over 20 percent of the State sugarcane acreage) (3); the relatively high sucrose content of C. P. 48/103 early in October; and the continued good performance of N. Co. 310, which was considered of such promise by the Contact Committee of the American Sugar Cane League that this committee recommended to the increase stations the purchase of additional seed of it for increase.

Weather Conditions

Table 1 gives the monthly rainfall at each of 10 variety test stations and the normal monthly values for Houma. Rainfall was generally deficient at Raceland, Greenwood and Houma in May, and at the three test fields in the western area (Oaklawn, Albania and Levert-St. John) during June, July and the early part of August. In that area the deficiency reached drouth proportions in late summer, retarding growth of cane at most places. For nearly two months, from early September to late October, little rainfall was recorded in the sugar district and fall plant cane failed to germinate in many cases because of the dry soil conditions.

The last killing freeze of the winter occurred on January 12, when the temperature dropped to 27° F. at Houma.

The long growing season permitted the crop to be in advanced stages of maturity early in the season except in the western area where drouth damage mentioned above adversely affected maturity,

Table 1. Monthly rainfall at cooperative variety test stations during 1953.

Station	Monthly rainfall during 1953 (Inches)												
	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Raceland	1.89	7.24	4.47	6.80	1.28	12.72	12.37	7.96	0	1.74	7.93	9.50	73.90
Greenwood	1.55	6.05	4.85	5.95	2.80	12.34	11.85	7.75	.85	1.00	7.05	13.00	75.04
Oaklawn	4.80	5.30	3.40	7.50	6.00	2.45	5.85	6.35	.40	1.30	7.60	9.10	60.05
Albania	4.15	5.27	1.80	5.03	12.00	2.08	5.65	7.13	.70	0.90	5 60	10.25	60.56
Levert-St. John	4.03	6.05	2.66	7.30	13.57	0.99	5.47	12.83	.35	.88	5.27	8.16	67.56
Alma	5.10	9.30	6.40	7.50	22.40	6.80	7.60	7.80	0	.80	5.50	15.10	94.30
Bon Secour	1.92	4.51	4.88	6.91	3.80	7.58	6.75	3.01	.75	.66	6.34	15.67	62.78
Clovelly*	1.20	6.10	2.53	3.37	2.25	10.80	5.75	5.05	1.10	2.50	11.80	7.50	59.95
Flm Hall	2.72	4.58	5.98	8.37	4.55	8.26	6.29	5.31	1.11	1.58	7.55	11.70	68.00
Houma	2.28	7.88	3.06	4.07	2.10	10.75	10.80	9.34	0.36	1.52	11.75	9.21	73.12
Average for Houma	4.07	4.36	4.86	4.32	4.35	6.30	7.78	7.74	6.21	4.26	4.67	5.18	64.10

* Rain recorded at nearby Valentine; record for Clovelly proper not available.

resulting in cane of low purity. In the remainder of the district many factories began operations during the first week in October, which is earlier than has been the case in any recent year. The weather was generally favorable for harvesting until late November when heavy rains softened the ground with subsequent damage to the fields by harvest machinery. No severe freezes occurred until December 15, when a low of 27° F. was recorded at Houma, 26° F. at Baton Rouge and 25° F. at Lafayette, and there was very little cane lost because of cold injury.

Experimental Technique

Methods of plot technique, field sampling and theoretical sugar-yield calculations have been described in previous reports (4, 5). Twenty to twenty-five varieties including commercial and promising unreleased varieties are planted in conventional replicated - block experiments with two to four 1/40-acre plots of each variety.

Twenty-stalk samples are taken from each plot at harvest and brought to the Houma station for milling and juice analysis. Theoretical sugar yield calculations are made according to the Winter-Carp-Geerligs formula with adjustments made for differences in juice extraction according to the method described by Arceneaux (1) with milling and recovery factors for Co. 281 taken as follows: Normal juice extraction 76%; reduction factor for Brix .971; reduction factor for per cent sucrose .950; B.H.E. 100%, comparable to the most efficient Louisiana mills. The material on which these millability factors are based consists of fresh, hand-cut and hand-stripped cane. While admittedly not comparable to commercial cane as milled by the factories in Louisiana, it is believed that greater care with respect to topping and stripping is justified in harvesting the experimental plots in order to obtain a more accurate comparison between varieties. The *relative* values given are believed to be representative and for purposes of evaluating the performance of different varieties are more accurate than a single value for *all* varieties. For example, the millability factor for variety C. P. 36/105 is .98 and for Co. 290, 1.06, so that at the same crusher juice analyses Co. 290 may be expected to yield 8 to 9 per cent more sugar per ton of cane than C. P. 36/105.

Tests on Light Soils

Results of all tests on light soils at six locations are presented in tables 2, 3, and 4. Average yields of cane and sugar per acre and average indicated yields of sugar per ton of cane are given for all varieties in plant cane, first and second stubble tests during 1953.

The following tabulation taken from data presented in these tables summarizes results obtained with the more important commercial varieties and some of the promising unreleased varieties.

C. P. 44/101 continued to give

Variety	Pounds of sugar per acre			ALL TESTS		
	Plant cane	1st stubble	2nd stubble	Sugar per ton	Sugar per acre	
					Pounds	% of C. P. 44/101
C. P. 29/116	4258	4771	4335	174.9	4455	77
C. P. 36/13	4931	5076	4277	212.2	4761	82
C. P. 36/105	4417	4656	4220	192.5	4431	77
C. P. 43/47	4549	5095	4786	207.0	4810	83
C. P. 44/101	4825	6420	6073	207.7	5773	100
C. P. 44/154	4812	6261	5686	185.6	5586	97
C. P. 44/155	4590	4950	5027	214.5	4856	84
C. P. 47/193	4346	6316	6382	214.0	5681	98
C. P. 48/103	4859	6233	----	242.3	----	--
C. P. 48/110	4209	5065	----	201.8	----	--
N. Co. 310	6567	6432	----	211.2	----	--

Table 2. Results of plant cane variety tests on light soils in Louisiana during 1953.

Variety	Godchaux (Raceland)[1] 12-15[6]	Oaklawn (Franklin)[2] 12-1	Albania (Jeanerette)[3] 11-30	Levert-St. John (St. Martinville)[4] 11-11	Alma (Lakeland)[5] 11-19	Bon Secour (St. James)[1] 11-16	Average
Average yield of cane per acre (tons)							
**Co. 290	----	27.0	28.2	16.7	----	----	23.97.
**C. P. 29/116	29.6	26.4	17.8	17.0	32.9	28.9	25.43
**C. P. 34/120	28.0	----	----	----	27.6	25.4	27.00
**C. P. 36/13	27.5	25.5	16.6	17.9	31.1	29.0	24.60
*C. P. 36/105	26.5	19.9	22.3	17.6	31.1	28.0	24.23
**C. P. 43/47	23.4	24.5	16.4	16.0	30.4	26.9	22.93
*C. P. 44/101	26.5	22.7	20.9	19.1	28.1	28.8	24.35
**C. P. 44/154	32.2	26.2	24.8	24.2	34.2	29.2	28.47
**C. P. 44/155	23.7	21.8	18.3	17.8	29.6	22.5	22.28
C. P. 44/153	----	28.5	26.0	23.4	33.4	26.2	28.13[7]
**C. P. 47/49	29.9	24.8	28.0	22.3	29.8	30.9	27.62
*C. P. 47/193	24.1	22.2	18.1	15.0	25.7	25.1	21.70
*C. P. 48/103	23.8	21.6	16.6	14.6	29.6	23.2	21.57
*C. P. 48/110	23.9	20.5	19.9	18.1	24.2	24.3	21.82
**C. P. 48/117	37.4	32.4	30.4	20.1	37.8	29.7	31.30
**C. P. 48/124	34.2	22.7	25.2	18.8	31.3	30.4	27.10
**C. P. 48/126	29.0	25.8	26.0	15.8	34.5	30.6	26.95
**C. P. 49/19	27.5	23.3	18.8	23.7	25.7	26.3	24.22
**C. P. 49/27	27.5	26.9	23.7	17.6	32.7	33.2	26.93
**C. P. 49/35	35.1	32.7	26.1	21.2	30.7	30.0	29.30
**C. P. 49/38	31.6	24.9	25.6	21.8	35.8	26.9	27.77
*N. Co. 310	37.7	30.3	29.4	24.2	37.1	31.6	31.72
Average indicated yield of 96° sugar per ton of cane (pounds)							
Co. 290	-----	167.5	172.7	-----	-----	-----	-----
C. P. 29/116	173.2	181.5	191.3	167.1	143.4	161.5	167.4
C. P. 34/120	229.8	-----	205.3	-----	160.8	191.5	-----
C. P. 36/13	232.5	217.0	184.6	194.6	158.7	212.9	200.4
C. P. 36/105	204.4	196.3	180.9	173.1	156.0	187.3	182.3
C. P. 43/47	238.1	207.1	213.1	179.4	154.3	208.0	198.4
C. P. 44/101	226.3	215.8	188.8	201.7	156.7	203.3	198.2
C. P. 44/154	203.5	183.1	167.3	174.3	119.2	173.9	169.0
C. P. 44/155	246.3	209.3	205.9	206.6	157.3	224.0	206.0
C. P. 44/153	-----	192.0	169.0	181.1	128.4	176.6	174.27
C. P. 47/49	216.8	205.8	193.0	192.2	164.2	203.6	195.9
C. P. 47/193	233.4	218.0	202.2	208.4	149.0	199.1	200.3
C. P. 48/103	256.6	241.2	217.2	222.2	195.4	224.3	225.3
C. P. 48/110	224.9	220.2	183.0	197.3	149.0	187.2	192.9
C. P. 48/117	211.1	197.4	187.4	174.8	129.2	159.1	176.3
C. P. 48/124	208.8	185.6	164.3	179.9	116.3	183.3	172.7
C. P. 48/126	190.3	186.7	171.5	168.6	122.6	178.2	167.9
C. P. 49/19	202.4	184.5	178.1	177.0	127.7	192.6	177.2
C. P. 49/27	212.0	186.8	183.9	181.4	139.2	175.4	178.1
C. P. 49/35	198.1	179.0	178.4	160.8	125.8	163.9	168.7
C. P. 49/38	185.8	177.7	164.1	151.8	111.8	158.0	156.4
N. Co. 310	241.3	218.2	207.7	213.1	154.1	212.4	207.0

Table 2—Continued. Results of plant cane variety tests on light soils in Louisiana during 1953.

Variety	Godchaux (Raceland)[1] 12-15	Oaklawn (Franklin)[2] 12-1	Albania (Jeanerette)[3] 11-30	Levert-St. John (St. Martinville)[4] 11-11	Alma (Lakeland)[5] 11-19	Bon Secour (St. James)[1] 11-16	Average
Average indicated yield of 96° sugar per acre (pounds)							
Co. 290	----	4522	4870	----	----	----	----
C. P. 29/116	5127	4792	3405	2841	4718	4667	4258
C. P. 34/120	6434	----	----	----	4438	4730	----
C. P. 36/13	6394	5533	3064	3483	4936	6174	4931
C. P. 36/105	5417	3906	4034	3047	4852	5244	4417
C. P. 43/47	5572	5074	3495	2870	4691	5595	4549
C. P. 44/101	5997	4899	3946	3852	4403	5855	4825
C. P. 44/154	6553	4797	4149	4218	4077	5078	4812
C. P. 44/155	5837	4563	3768	3677	4656	5040	4590
C. P. 44/153	----	5472	4394	4238	4289	4627	4901[7]
C. P. 47/49	6482	5104	5404	4286	4893	6291	5410
C. P. 47/193	5625	4840	3660	3126	3829	4997	4346
C. P. 48/103	6107	5210	3606	3244	5784	5204	4859
C. P. 48/110	5375	4514	3642	3571	3606	4549	4209
C. P. 48/117	7895	6396	5697	3513	4884	4725	5518
C. P. 48/124	7141	4213	4140	3382	3640	5572	4681
C. P. 48/126	5519	4817	4459	2664	4230	5453	4524
C. P. 49/19	5566	4299	3348	4195	3282	5065	4292
C. P. 49/27	5830	5025	4358	3193	4552	5823	4797
C. P. 49/35	6953	5853	4656	3409	3862	4917	4942
C. P. 49/38	5871	4425	4201	3309	4002	4250	4343
N. Co. 310	9097	6611	6106	5157	5717	6712	6567

[1] Mhoon silty clay loam.

[2] Baldwin silty clay loam.

[3] Baldwin silty loam.

[4] Baldwin very fine sandy loam.

[5] Commerce very fine sandy loam.

[6] Date of harvest.

[7] Average based on an assumed value calculated according to Yates formula for determining missing plot values. (Paterson, D. D. Statistical Technique in Agricultural Research pp. 181-188).

* Averages are based on 5 yield determinations at each station.

** Averages are based on 2 yield determinations at each station.

Table 3. Results of first stubble variety tests on light soils in Louisiana during 1953.

Variety	Godchaux (Raceland)[1] 11-25[5]	Oaklawn (Franklin)[2] 10-20	Albania (Jeanerette)[3] 11–9	Levert-St. John (St. Martinville)[4] 11-10	Bon Secour (St. James)[1] 11–2	Average
Average yield of cane per acre (tons)						
*Co. 290	30.4	26.5	25.1	26.5	28.8	27.46
*C. P. 29/116	27.1	30.6	21.3	26.8	27.9	26.74
**C. P. 29/320	21.6	21.7	18.2	17.9	14.4	18.76
*C. P. 34/120	31.3	23.6	23.8	20.6	21.2	24.10
*C. P. 36/13	24 0	31.5	16.5	25.9	17.9	23.16
*C. P. 36/105	24.0	23.6	24.8	18.9	24.2	23.10
**C. P. 36/183	24.8	26.6	20.7	26.0	18.4	23.30
*C. P. 43/47	23.9	30.7	21.2	16.4	25.0	23.44
*C. P. 44/101	35.7	30.8	27.3	27.7	28.5	30.00
**C. P. 44/154	32 9	34.3	34.3	30.7	29.0	32.24
*C. P. 44/155	25.1	30.5	18.4	19.9	18.0	22 38
**C. P. 44/153	28.0	27.8	31.8	26.2	26.9	28.14
**C. P. 47/61	25.1	24.5	33.1	25.1	24.7	26.50
**C P 47/91	28.3	31 0	18.7	24.8	26.4	25.84
**C. P. 47/99	23.2	22.0	22.2	22.8	26.0	23.24
**C. P. 47/109	32.6	27.0	23.1	15.1	29.9	25.54
**C. P. 47/193	31.0	27.1	29.7	28.7	27.1	28.72
**C. P. 48/103	25 0	24.8	29.1	18.2	23.9	24.20
*C P. 48/110	21.7	28.1	21.0	24.8	25.1	24.14
**C. P. 48/116	25.6	28.9	25.1	22.7	23.3	25.12
**C. P. 48/119	28.2	28 1	21.9	22.2	30.7	26.22
**C. P. 48/120	28.4	23 7	21.7	24.3	28.0	25.22
**C. P. 48/126	25.9	26.8	23.5	26.4	28.1	26.14
**N. Co. 310	29.8	32.8	26.1	28.8	31.6	29.82
Average indicated yield of 96° sugar per ton of cane (pounds)						
Co. 290	204.0	200 9	169.6	168.1	173.5	183.8
C. P. 29/116	186.9	193 3	174.5	191.2	144.5	178.4
C. P. 29/320	214 1	239.7	222.1	231.4	198.0	222.4
C. P. 34/120	219.0	207.6	200.4	207.0	179.1	204.0
C. P. 36/13	229.9	232.8	219.2	205.1	201.1	219.2
C. P. 36/105	207.5	209.2	203 7	201.3	186.1	201.6
C. P. 36/183	178.6	221.9	213.6	213.2	182.0	203.0
C. P. 43/47	235.2	209.6	222.4	206.5	212.7	217.4
C. P. 44/101	205 4	221.8	221.8	211.2	211.7	214.0
C. P. 44/154	206.8	195.4	-----	185.5	185.2	194 2[6]
C. P. 44/155	228.3	218.1	232.8	206.3	221.1	221.2
C. P. 44/153	212.6	216.1	203.2	203.5	207.8	208.6
C. P. 47/61	205.2	225.8	176.9	194.4	173.3	194.0
C. P 47/91	183.1	197.1	213.3	188.0	174.6	190.0
C. P. 47/99	188.2	189.2	191.2	178.7	164.7	181.8
C. P. 47/109	207.4	222.3	208.0	167.1	180.7	199.6
C. P. 47/193	221.5	230.1	213.6	224.3	210.3	219.9
C. P. 48/103	250.5	262.9	271.6	251.7	246.7	257.6

Table 3—Continued. Results of first stubble variety tests on light soils in Louisiana during 1953.

Variety	Godchaux (Raceland)[1] 11-25[5]	Oaklawn (Franklin)[2] 10-20	Albania (Jeanerette)[3] 11–9	Levert-St. John (St. Martinville)[4] 11-10	Bon Secour (St. James)[1] 11–2	Average
Average indicated yield of 96° sugar per ton of cane (pounds)						
C. P 48/110	216.6	216.8	209.4	212.2	194.2	209.8
C. P. 48/116	156.3	178.7	153.0	169.5	154.9	162.9
C. P. 48/119	188.8	183.4	183.0	176.6	177.7	182.0
C. P. 48/120	183.2	216.2	170.3	177.8	178.7	185.2
C. P. 48/126	178.7	194 7	188.3	167.7	171.1	179.8
N. Co. 310	220.3	207.2	233.9	208.0	212.1	215.7
Average indicated yield of 96° sugar per acre (pounds)						
Co. 290	6202	5324	4257	4455	4997	5047
C P 29/116	5065	5915	3717	5124	4032	4771
C. P. 29/320	4625	5201	4042	4142	2851	4172
C. P. 34/120	6855	4899	4770	4264	3797	4917
C. P. 36/13	5518	7333	3617	5312	3600	5076
C. P. 36/105	4980	4937	5052	3805	4504	4656
C. P. 36/183	4429	5903	4422	5543	3349	4729
C. P. 43/47	5621	6435	4715	3387	5317	5095
C. P. 44/101	7333	6831	6055	5850	6033	6420
C. P. 44/154	6804	6702	----	5695	5371	6261[6]
C. P. 44/155	5730	6652	4284	4105	3980	4950
C. P. 44/153	5953	6008	6462	5332	5590	5869
C. P. 47/61	5151	5532	5855	4879	4281	5140
C. P. 47/91	5182	6110	3989	4662	4609	4910
C. P. 47/99	4366	4162	4245	4074	4282	4226
C. P. 47/109	6761	6002	4805	2523	5403	5099
C. P. 47/193	6866	6236	6344	6437	5699	6316
C. P. 48/103	6262	6520	7904	4581	5896	6233
C. P. 48/110	4700	6092	4397	5263	4874	5065
C. P. 48/116	4001	5164	3840	3848	3609	4092
C. P. 48/119	5324	5154	4008	3921	5455	4772
C. P 48/120	5203	5124	3696	4321	5004	4670
C. P. 48/126	4628	5218	4425	4427	4808	4701
N. Co. 310	6565	6796	6105	5990	6702	6432

[1] Mhoon silty clay loam.

[2] Baldwin silty clay loam.

[3] Baldwin silty loam.

[4] Baldwin very fine sandy loam.

[5] Date of harvest.

[6] Average based on an assumed value calculated according to Yates formula for determining missing plot values. (Paterson, D. D. Statistical Technique in Agricultural Research. pp. 181-188).

* Averages are based on 4 yield determinations at each station.

** Averages are based on 2 yield determinations at each station.

Table 4. Results of second stubble variety tests on light soils in Louisiana during 1953.

Variety	Godchaux (Raceland)[1]	Oaklawn (Franklin)[2]	Albania (Jeanerette)[3]	Levert-St. John, (St. Martinville)[4]	Bon Secour (St. James)[1]	Average
	11-23[5]	10-19	10-21	10-27	10-16	
Average yield of cane per acre (tons)						
*Co. 290	22.7	30.3	21.1	24.5	26.4	25.00
*C. P. 29/116	20.2	30.0	23.4	26.2	21.5	24.26
*C. P. 29/320	19.4	19.1	18.1	14.8	12.6	16.80
*C. P. 34/120	23.6	24.8	26.8	19.8	18.3	22.66
*C. P. 36/13	20.2	30.7	16.5	13.2	17.1	19.54
*C. P. 36/105	23.4	23.9	17.9	18.8	24.7	21.74
**C. P. 36/183	18.1	25.3	17.7	22.8	19.1	20.60
**C. P. 43/33	17.2	31.8	29.3	27.2	21.5	25.40
*C. P. 43/47	24.1	29.6	18.3	22.2	22.5	23.34
**C. P. 44/69	15.6	29.8	25.5	10.4	11.9	18.64
*C. P. 44/92	25.4	21.9	17.2	----	20.1	20.74[6]
*C. P. 44/101	23.9	34.1	30.1	29.8	27.3	29.04
*C. P. 44/154	26.2	33.1	32.6	27.9	28.2	29.60
*C. P. 44/155	20.9	30.7	22.5	22.1	20.0	23.24
**C. P. 45/150	17.9	27.8	18.8	15.6	19.1	19.84
**C. P. 45/153	19.5	23.8	20.1	13.1	17.2	18.74
**C. P. 45/184	23.5	34.3	34.2	33.4	25.5	30.18
**C. P. 47/61	19.6	23.1	19.8	26.0	26.7	23.04
**C. P. 47/64	24.3	28.0	31.2	18.8	23.4	25.14
**C. P. 47/91	19.6	28.0	24.0	27.8	25.4	24.96
**C. P. 47/99	18.6	21.8	15.2	17.8	17.8	18.24
**C. P. 47/109	25.5	33.2	27.1	24.2	31.7	28.34
**C. P. 47/126	19.8	27.1	27.7	26.4	21.1	24.42
**C. P. 47/166	19.7	19.0	11.0	8.0	14.3	14.40
**C. P. 47/193	26.6	31.1	32.1	26.9	29.4	29.22
Average indicated yield of 96° sugar per ton of cane (pounds)						
Co. 290	203.4	187.1	155.8	179.6	159.8	177.5
C. P. 29/116	189.8	192.5	183.2	180.6	141.7	178.7
C. P. 29/320	233.6	213.2	217.5	223.2	193.6	217.7
C. P. 34/120	233.7	205.5	190.8	202.3	178.1	202.9
C. P. 36/13	231.0	227.4	199.3	211.7	213.7	218.9
C. P. 36/105	210.6	195.9	187.7	195.0	180.7	194.1
C. P. 36/183	205.4	223.0	190.4	207.7	177.4	202.5
C. P. 43/33	231.3	204.2	204.4	204.9	198.9	207.2
C. P. 43/47	234.7	197.8	187.7	199.0	203.0	205.1
C. P. 44/69	208.7	206.8	190.9	201.7	158.2	196.0
C. P. 44/92	238.9	201.1	182.9	-----	195.1	208.9[6]
C. P. 44/101	222.5	218.4	204.3	200.7	200.3	209.1
C. P. 44/154	218.5	205.2	186.6	187.6	163.0	192.1
C. P. 44/155	245.5	210.2	210.2	200.7	219.4	216.3
C. P. 45/150	179.8	167.4	174.5	161.2	154.1	162.4
C. P. 45/153	214.8	224.1	220.4	214.8	188.8	213.6
C. P. 45/184	212.1	217.1	202.9	186.4	174.7	199.1

Table 4—Continued. Results of second stubble variety tests on light soils in Louisiana during 1953.

Variety	Godchaux (Raceland)[1]	Oaklawn (Franklin)[2]	Albania (Jeanerette)[4]	Levert-St. John, (St. Martinville)[3]	Bon Secour (St. James)[1]	Average
	11-23[5]	10-19	10-21	10-27	10-16	
Average indicated yield of 96° sugar per ton of cane (pounds)						
C. P. 47/61	214.4	227.1	197.5	203.7	170.3	201.4
C. P. 47/64	211.6	219.0	184.7	202.7	170.4	197.6
C. P. 47/91	208.5	203.3	191.5	190.1	164.4	191.0
C. P. 47/99	200.1	171.9	164.0	185.7	145.5	173.8
C. P. 47/109	206.0	212.9	205.2	191.2	169.0	196.6
C. P. 47/126	218.6	-----	191 1	189.5	171.6	196.9[6]
C. P. 47/166	164.5	160.6	151.3	150.6	140.1	155.1
C. P. 47/193	235.4	226.0	217.9	222.2	192.0	218.4
Average indicated yield of 96° sugar per acre (pounds)						
Co. 290	4617	5669	3287	4400	4219	4438
C. P. 29/116	3834	5775	4287	4732	3047	4335
C. P. 29/320	4532	4072	3937	3303	4239	3657
C. P. 34/120	5515	5096	5113	4006	3259	4598
C. P. 36/13	4666	6981	3288	2794	3654	4277
C. P. 36/105	4928	4682	3360	3666	4463	4220
C. P. 36/183	3718	5642	3370	4736	3388	4171
C. P. 43/33	3978	6494	5989	5573	4276	5262
C. P. 43/47	5656	5855	3435	4418	4567	4786
C. P. 44/69	3256	6163	4868	2098	1883	3654
C. P. 44/92	6068	4404	3146	----	3922	4332[6]
C. P. 44/101	5318	7447	6149	5981	5468	6073
C. P. 44/154	5725	6792	6083	5234	4597	5686
C. P. 44/155	5131	6453	4729	4435	4388	5027
C. P. 45/150	3218	4654	3281	2515	2943	3222
C. P. 45/153	4189	5334	4430	2814	3247	4003
C. P. 45/184	4984	7417	6939	6226	4455	6010
C. P 47/61	4202	5246	3910	5296	4547	4640
C. P. 47/64	5142	6132	5763	3811	3987	4967
C. P. 47/91	4087	5692	4596	5285	4176	4767
C. P. 47/99	3722	3747	2493	3305	2590	3171
C. P. 47/109	5253	7068	5561	4627	5357	5573
C. P. 47/126	4328	----	5293	5003	3621	4809[6]
C. P. 47/166	3241	3051	1664	1205	2003	2233
C. P. 47/193	6262	7029	6995	5977	5645	6382

[1] Mhoon silty clay loam.
[2] Baldwin silty clay loam.
[3] Baldwin silty loam.
[4] Baldwin very fine sandy loam.
[5] Date of harvest.
[6] Average based on an assumed value calculated according to Yates formula for determining missing plot values. (Paterson, D. D. Statistical Technique in Agricultural Research. pp 181-188).

* Averages are based on 4 yield determinations at each station.
** Averages are based on 2 yield determinations at each station.

very good yields. It surpassed C. P. 44/155 by 19 percent, C. P. 43/47 by 20 percent and C. P. 36/105 by more than 20 percent in production of sugar per acre over the three-crop average. C. P. 44/154, released for commercial culture primarily because of its high cane yields and good shading qualities, averaged only 187 pounds less than C. P. 44/101 in sugar per acre per crop, but gave relatively low yields of sugar per ton of cane. It can be expected to produce cane only slightly better than C. P. 29/116 in juice qualities. This, together with the fact that it is border line with respect to adaptability to mechanical harvesting, makes the variety marginal for growing on light soils.

C. P. 44/155 and C. P. 43/47 both outyielded C. P. 36/105 in sugar per acre and indicated yields of sugar per ton of cane. C. P. 44/155 is relatively high in sucrose content, a desirable quality from the standpoint of having cane for early milling, but with very heavy tonnage it may lodge, making it difficult to harvest mechanically. C. P. 43/47 yielded slightly less sugar per acre than C. P. 44/155, but surpassed C. P. 36/105 by 9 percent in that respect. It is very erect, has stalks of uniform length, a very important characteristic with the single level topping by the commercial harvesters, and equals C. P. 44/101 in yield of sugar per ton of cane. C. P. 43/47 is adversely affected by drouth conditions, however, and should be planted only on the better drained light soils. C. P. 36/13 with its high sucrose content ranked only slightly below C. P. 43/47 and C. P. 44/155 in total sugar yields, but like these two varieties, is adapted only to the better drained light soils. Its good milling qualities and high sucrose content are important advantages and it is gradually increasing in acreage planted (3).

Promising Unreleased Varieties

Three promising unreleased varieties, C. P. 47/193, C. P. 48/103 and N. Co. 310, now at the secondary increase stations, were compared with the commercial varieties on light soils. The latter two varieties occurred in plant cane, first stubble and second stubble. C. P. 47/193 equaled C. P. 44/155 in indicated yield of sugar per ton of cane and yielded only 68 pounds of sugar per acre per crop less than C. P. 44/101. The relatively small stalks of this variety (equal to C. P. 43/47 in diameter) and poor shading capacity are important disadvantages.

C. P. 48/103 produced approximately the same amount of sugar per acre as C. P. 44/101 in the average of plant cane and first stubble crops and produced the highest yields of sugar per ton of any variety now at the test fields. Its cane yields were relatively high this year but in the average of all tests conducted before 1953 it produced 96 percent of the sugar-per-acre yields of C. P. 44/101 (data not shown). Its early maturing qualities indicated in preliminary studies at the station (data not shown). merit consideration of it as a useful variety to plant on small acreages for early milling.

N. Co. 310 is probably the most promising unreleased variety now in advanced stages of the testing program. It is slightly better than C. P. 44/101 in sugar content and has produced exceptionally good plant cane crops. Cane and sugar yields in stubble crops were less than in plant cane, but were equal to or above yields of C. P. 44/101 during 1953. It surpassed that variety by 16 percent in yields of sugar per acre.

C. P. 49/27 and C. P. 49/35 equaled C. P. 44/101 in yields of cane per acre but were considerably lower in sugar content. C. P. 47/49 produced approximately the same amount of sugar per ton of cane as C. P. 44/101 and slightly surpassed the latter variety in yields of sugar per acre. However, the variety's susceptibility to lodging will prob-

Table 5. Results of plant cane variety tests on heavy soils in Louisiana during 1953.

Variety	Greenwood (Thibodaux)[1] 11-27[4]	Oaklawn (Franklin)[2] 12-2	Station (Houma)[3] 11-24	Average
Average yield of cane per acre (tons)				
*Co. 290	25.0	14.9	22.0	20.63
C. P. 29/116	22.2	19.2	21.0	20.80
C. P. 36/105	21.7	17.1	20.3	19.70
C. P. 44/101	18.3	17.0	22.7	19.33
C. P. 44/154	17.9	20.1	23.9	20.63
*C. P. 44/153	21.7	17.5	22.3	20.50
*C. P. 45/184	17.3	20.3	18.3	18.63
*C. P. 47/49	24.5	----	22.9	22.63[5]
C. P. 48/110	18.5	17.0	21.7	19.07
*N. Co. 310	27.7	24.4	30.3	27.47
Average indicated yield of 96° sugar per ton of cane (pounds)				
Co. 290	158.7	170.0	174.7	167.1
C. P. 29/116	150.9	186.1	183.6	172.7
C. P. 36/105	178.4	203.8	190.2	189.8
C. P. 44/101	202.5	218.4	219.8	214.0
C. P. 44/154	164.1	194.4	186.2	182.5
C. P. 44/153	165.4	224.5	205.4	196.7
C. P. 45/184	175.5	200.7	203.4	193.8
C. P. 47/49	177.7	-----	189.1	189.3[5]
C. P. 48/110	194.2	214.1	203.8	203.7
N. Co. 310	152.8	230.9	221.8	201.3
Average indicated yield of 96° sugar per acre (pounds)				
Co. 290	3967	2533	3843	3448
C. P. 29/116	3350	3573	3856	3593
C. P. 36/105	3871	3485	3861	3739
C. P. 44/101	3706	3713	4989	4136
C. P. 44/154	2937	3907	4450	3765
C. P. 44/153	3589	3929	4580	4033
C. P. 45/184	3036	4074	3722	3611
C. P. 47/49	4354	----	4330	4283[5]
C. P. 48/110	3593	3640	4422	3885
N. Co. 310	4233	5634	6721	5529

[1] Sharkey clay.
[2] Alligator clay, brown phase.
[3] Sharkey silty clam loam.
[4] Date of harvest.
[5] Average based on an assumed value for missing plot yield calculated according to Yates formula for determining missing plot values. (Paterson, D. D. Statistical Technique in Agricultural Research. pp. 181-188).
* Averages based on single determination at each station; others based on 5 determinations at each station.

Table 6. Results of stubble variety tests on heavy soil in Louisiana during 1953.

Variety	FIRST STUBBLE					SECOND STUBBLE
	Greenwood (Thibodaux)[1] 10-29[4]	Oaklawn (Franklin)[2] 12-2	Elm Hall (Napoleonville)[1] 11-3	Station (Houma)[3] 11-17	Average	Station (Houma)[3] 10-14
Average yield of cane per acre (tons)						
Co. 290	26.4	20.2	----	23.5	----	25.8
C. P. 29/116	24.1	24.8	21.5	20.5	22.72	24.2
C. P. 34/120	23.5	20.7	19.0	22.2	21.35	22.9
C. P. 36/105	24.9	17.7	17.4	15.0	18.75	22.9
*C. P. 43/47	22.1	23.1	18.0	10.2	18.35	21.4
C. P. 44/101	23.4	21.4	25.5	23.4	23.42	27.5
*C. P. 44/154	30.7	32.2	22.2	15.0	25.02	27.0
C. P. 33/224	19.2	22.8	20.3	22.1	21.10	18.4
*C. P. 44/153	18.9	21.3	20.6	27.9	22.17	24.0
*C. P. 45/122	----	----	12.5	18.1	-----	23.4
*C. P. 45/150	25.8	20.8	22.5	19.4	22.12	26.8
*C. P. 45/184	27.2	27.9	22.2	17.3	23.65	21.2
*C. P. 48/110	26.4	21.8	17.4	25.0	22.65	27.9
*N. Co. 310	22.1	25.7	24.6	31.2	25.90	31.9
Average indicated yield of 96° sugar per ton of cane (pounds)						
Co. 290	179.5	207.3	-----	209.3	-----	195.9
C. P. 29/116	134.6	207.0	198.6	193.8	182.9	177.4
C. P. 34/120	166.6	215.5	225.5	210.4	203.0	193.2
C. P. 36/105	189.3	214.3	214.9	186.4	200.5	206.7
C. P. 43/47	194.0	236.5	236.8	207.1	219.7	211.1
C. P. 44/101	184.6	240.4	222.6	226.0	218.1	215.2
C. P. 44/154	174.1	233.6	223.6	219.9	211.1	208.3
C. P. 33/224	175.0	215.3	205.7	206.8	201.6	194.6
C. P. 44/153	204.1	227.1	231.2	223.4	222.0	201.7
C. P. 45/122	----	228.1	208.9	202.1	-----	198.6
C. P. 45/150	163.6	193.9	-----	191.6	-----	201.9
C. P. 45/184	157.8	212.7	207.6	215.4	196.2	199.9
C. P. 48/110	178.4	247.6	244.8	225.7	220.8	198.7
N. Co. 310	147.7	239.8	244.9	231.7	218.9	206.0
Average indicated yield of 96° sugar per acre (pounds)						
Co. 290	4739	4187	----	4919	4615	5054
C. P. 29/116	3244	5134	4270	3973	4155	4293
C. P. 34/120	3915	4461	4284	4671	4333	4424
C. P. 36/105	4714	3793	3739	2796	3760	4733
C. P. 43/47	4287	5463	4262	2112	4031	4518
C. P. 44/101	4320	5145	5676	5288	5107	5918
C. P. 44/154	5345	7522	4964	3298	5282	5624
C. P. 33/224	3360	4909	4176	4570	4254	3581
C. P. 44/153	3857	4837	4763	6233	4922	4841
C. P. 45/122	----	----	2611	3658	----	4647
C. P. 45/150	4221	4033	----	3717	----	5411
C. P. 45/184	4292	5934	4609	3726	4640	4238
C. P. 48/110	4710	5398	4260	5642	5002	5544
N. Co. 310	3264	6163	6025	7229	5670	6571

[1] Sharkey clay.
[2] Alligator clay, brown surface phase.
[3] Sharkey silty clay loam.
[4] Date of harvest.
* Averages based on single determination at each station; others based on 4 determinations at each station.

ably limit its usefulness for commercial plantings.

Tests on Heavy Soils

Tables 5 and 6 give results of all tests on heavy soils.

The following tabulation taken from the data presented in tables 5 and 6 summarizes results of all tests on heavy soils:

Variety	Pounds of sugar per acre			ALL TESTS		
					Sugar per acre	
	Plant cane	1st stubble	2nd stubble	Sugar per ton	Pounds	% of C. P. 44/101
C. P. 29/116	3593	4155	4293	177.8	4014	79
C. P. 34/120	----	4333	4424	----	----	--
C. P. 36/105	3739	3760	4733	199.4	4077	81
C. P. 44/101	4136	5107	5918	215.8	5054	100
C. P. 44/154	3765	5282	5624	201.9	4890	97
C. P. 33/224	----	4254	3581	----	----	--
C. P. 45/184	3611	4640	4238	197.3	4163	82
C. P. 48/110	3885	5002	5544	207.1	4810	95
N. Co. 310	5529	5670	6571	213.1	5923	117

C. P. 44/101 averaged more than 700 pounds of sugar per acre above C. P. 34/120 in first stubble tests and approximately 1000 pounds of sugar per acre more than either C. P. 29/116 or C. P. 36/105 in the average of all tests. It is by far the most satisfactory commercial variety on this type of soil. C. P. 44/154 yielded 164 pounds of sugar per acre per crop less than C. P. 44/101 and was much lower in percent sucrose than that variety. It was, however, approximately equal to C. P. 36/105 and considerably higher than C. P. 29/116 in average yields of sugar per ton of cane. N. Co. 310 produced 117 percent of the sugar-per-acre yields of C. P. 44/101 in the average of all tests and averaged approximately the same sugar-per-ton yields. In agreement with results of tests on light soils, N. Co. 310 is the only unreleased variety in advanced stages of testing that has equaled or surpassed C. P. 44/101 in both sugar and cane yields. Its relatively lower stubble yields, however, should be viewed with caution in considering it for planting on either light or heavy soils.

C. P. 48/110 is a vigorous, erect-growing variety but not quite equal to C.P. 44/101 in either cane or sugar yields. C. P. 33/224, included in stubble tests only, produced quantities of cane and sugar substantially below C.P. 44/101.

Tests on Muck Soils

On soils of this type, the primary consideration is a variety that will produce mill cane of acceptable sucrose quality. With the substitution of sandy soil for the gradually disappearing shallow layer of muck at Clovelly Farms, varietal response in the future may be different from the response at the present time. Cane-per-acre yields are still relatively high, however, and only those varieties of high sucrose content produce satisfactory cane for milling purposes.

Table 7 gives results of all tests on muck soils during 1953. Of the commercial varieties C. P. 44/101 produced the highest yields of sugar per acre with highly satisfactory yields of sugar per ton of cane. C. P. 36/13, C. P. 43/47, and C. P. 44/155 produced 90, 91, and 92 percent, respectively, of the sugar-per-acre yields of C. P. 44/101. C. P. 44/155 averaged more sugar per ton of cane than C. P. 44/101 and C. P. 36/13, and C. P. 43/47 equaled C. P. 44/101 in that respect. Late suckers in many of the varieties, notably C. P. 36/13 and C. P. 44/101, materially affected the quality of cane.

C. P. 43/33, C. P. 47/193, and C. P. 48/103 produced relatively high yields of cane of good sucrose quality. C. P. 47/193 surpassed C. P. 44/101 in yields of both cane and sugar per acre and C. P. 48/103 produced less cane and sugar per acre than C. P. 44/101, but its relatively high sugar-per-ton yields should make it a good variety for early

Table 7. Results of variety tests on muck soil[1] at Clovelly Farms during 1953.

Variety	PLANT CANE 12-10[2]			FIRST STUBBLE 12-10			SECOND STUBBLE 11-5		
	Av. yield of cane per acre	Av. indicated yield of 96° sugar		Av. yield of cane per acre	Av. indicated yield of 96° sugar		Av. yield of cane per acre	Av. indicated yield of 96° sugar	
		Per ton of cane	Per acre		Per ton of cane	Per acre		Per ton of cane	Per acre
	(tons)	(pounds)	(pounds)	(tons)	(pounds)	(pounds)	(tons)	(pounds)	(pounds)
C. P. 29/320	14.2	196.1	2785	33.3	195.5	6510	30.0	178.8	5364
C. P. 34/120	19.1	178.0	3400	35 1	194.4	6823	28.6	169.9	4859
C. P. 36/13	19.3	189.5	3657	34.5	189.7	6545	35.8	204 3	7314
C. P. 43/47	28.2	198.7	5603	33.8	194.8	6584	28.9	188.7	5453
C. P. 44/101	27.7	193.5	5360	39.2	197.2	7730	33.0	193.6	6389
C. P. 44/155	24.3	187.7	4561	30.9	218.9	6764	32.0	207.7	6646
C. P. 33/253	----	-----	----	30 0	197.8	5934	33.5	191.5	6415
C. P. 38/26	----	-----	----	34.6	193.2	6685	29.9	187.2	5597
C. P. 43/33	----	-----	----	37.0	205.0	7585	34.7	198.9	6902
C. P. 47/49	32.6	194.1	6328	----	-----	----	----	-----	----
C. P. 47/109	----	-----	----	40.0	187.2	7488	33.7	183.2	6174
C. P. 47/191	24.8	185.4	4598	32.1	195.5	6276	31.7	185.1	5868
C. P. 47/193	25.3	196.9	4982	----	-----	----	39.7	208.8	8289
C. P. 48/103	25.3	218.2	5520	30.3	211.8	6418	----	-----	----

[1] Shallow muck over Sharkey clay. [2] Date of harvest.

milling on this type of soil.

Locality Adaptation

In a previous publication (2) it was shown that the relative yield of different varieties at the different stations varied from year to year. It was pointed out at that time that the average variety yields in replicated tests over a number of years were much more reliable in evaluating the performance of the varieties. While yield data are of primary importance in the evaluation of varieties for locality adaptation, other characteristics, as affected by locality, must also be carefully considered. Of great value to the grower is the knowledge of such important characteristics as early maturity, early spring growth, shading, drouth resistance, and a good mechanical harvester rating, in making his decision for relative acreage plantings. Thus a relatively high yielding variety, may, in some localities, get a low evaluation rating. With these facts in mind some order of locality adaptation can be made.

Results of ten tests at each of the stations on light soils show that C. P. 44/101 outyielded all other varieties at all stations during the past 5 years and is the variety best adapted to all soil types. C. P. 36/105, the most widely grown variety in all three areas of the sugar district (3) is generally well adapted to all soil types. It matures comparatively early; however, a decrease in acreage planted to this variety is due partly to the adverse effect of drouth and to the superior qualities of C. P. 44/101. It is anticipated that these two varieties will continue to be major canes in all parts of the district for the immediate future.

C. P. 44/155 is not so well adapted to all soil types but its yields are good on all well drained light soils on which it can be used as a secondary cane for early milling. C. P. 36/13, which is also best adapted to the well drained light soils, has performed well at the Raceland and Oaklawn test fields. C. P. 43/47, which is best adapted to the light soils, performed well at Oaklawn and Alma, but generally its yields drop considerably when a drouth occurs. C. P. 44/154 is recommended for the Western area, but its low juice qualities mentioned above will probably limit its usefulness.

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SUGAR CANE TEST FIELDS SEASON OF 1953

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Sugar Cane Variety Test Fields

In the 1953 sugar cane milling season, a total of twenty-two sugar cane variety fields was harvested and tested at the seven Experiment Station test field locations. There were eight plant cane, eight first stubble and six second stubble fields on representative soil types of five sugar cane growing regions of the Louisiana cane belt. All of the presently grown commercial varieties, several of the most promising unreleased varieties, and the plant cane and stubble of introductory varieties, were grown at these locations on an experimental basis during the past season. Comparable field and juice analyses data were obtained under actual cooperators' routine methods, during an interval of sixty-eight days of the 1953 milling season.

Fall Planted Fields

During the 1953 fall planting period, from September 14-25, eight new fields were planted at the seven locations. The new plantings consisted of a total of 31.44 acres; with the fields ranging in size from 2.13 to 5.05 acres. From four to seven commercial canes and an average of ten unreleased varieties were planted. Plantings of the following nine new varieties were also made at each place: C.P. Nos. 50-25, 50-37, 50-39, 50-40, 50-41, 51-13, 51-21, 51-24 and 51-27. Seed cane of these varieties was grown at the Louisiana State University Sugar Experiment Station, and taken to the test fields by cooperators' trucks.

Unreleased Varieties

Introductory plantings of promising unreleased sugar cane varieties during the past six years were made as follows:

Year	Number of varieties planted	Most promising varieties
1947	8	C. P. 45-184
1948	9	None
1949	8	C. P. 47-193
1950	8	N. Co. 310, C. P. Nos. 48-103, 48-110 & 48-124
1951	7	C. P. 47-49
1952	8	C. P. 50-11

Over a period of six years, 1947 to 1952 inclusive, a total of forty-eight new unreleased sugar cane varieties were planted on the test fields. These varieties were selected by members of the Plant Pathology and Agronomy Departments of the Houma Sugar Station and the Louisiana State University Experiment Station, as the most suitable for introductory plantings.

In the 1953 season there was a total of eight varieties that were considered important enough for comparative testing, and out of which, some compared very favorably with the top ranking commercial canes.

N. Co. 310 made the most impressive showing by ranking first five times; compared to two first place ratings for each of the other three varieties: C.P. Nos. 48-103, 47-193 and 45-184. The C.P. 47-193 cane showed fine performance on Cinclare Bowdre-Sharkey clay soil.

In the plant cane tests, three unreleased varieties made a favorable showing as follows: C.P. 48-110, ranked first and third at Glenwood and Reserve respectively; C.P. 48-124, ranked second at Reserve and C.P. 47-49 ranked fifth at Billeaud test field.

C.P. 50-11, a reddish colored, large diameter erect cane, made an outstanding growth performance at all of the test fields. It was the most promising of the new 1952 introductory canes.

CINCLARE TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity		Per Ton	Per Acre
Fall Plant Cane (Mhoon very fine sandy loam)						
N. Co. 310*	16.47	12.95	78.63	40.26	174.70	7033
C. P. 36-105	15.50	12.16	78.45	38.93	162.16	6313
C. P. 44-101	14.83	11.55	77 88	40.85	152.60	6234
C. P 48-103*	16.67	13.23	79.36	34.26	179.18	6139
C. P. 44-155	16.38	13.11	80.04	33.05	177.26	5858
C. P. 47-193*	15.31	12.00	78.38	34.74	159.60	5545
C. P. 45-184*	15.31	11.79	77.01	34.20	156.34	5347
Fall Plant Cane (Bowdre-Sharkey clay)						
C. P. 47-193*	15.50	12.85	82.90	28.09	173.10	4862
C. P. 36-105	16.09	12.81	79.61	25.87	172.46	4462
C. P. 45-184*	15.02	11.69	77.83	27.93	154.75	4322
C. P 44-155	16.09	13.09	81.35	24.20	176.94	4282
C. P. 44-154	14.63	11.34	77.51	27.07	149.30	4042
C. P. 44-101	15.02	11.78	78.43	25.28	156.18	3948
C. P. 48-110*	17.73	12.50	70.50	22.50	167.50	3769
First Stubble (Mhoon very fine sandy loam)						
C. P. 44-101	17.93	14.25	79.48	29.66	195.70	5804
C. P. 36-13	18.80	15.55	82.71	25.54	217.15	5546
C. P. 34-120	18.02	14.45	80.19	27.14	199.00	5401
C. P. 44-155	18.60	15.03	80.81	25.65	208.51	5348
C. P. 43-47	18.51	15.49	83.68	25.05	216.13	5198
C. P. 36-105	18.12	14.45	79.75	25.54	199.00	5082
C. P. 29-320	17.93	14.51	80.93	21.14	199.96	4227
First Stubble (Bowdre-Sharkey clay)						
C. P. 44-154	18.02	14.51	80.52	25.96	199.96	5191
C. P 44-101	18.31	14.52	79.30	25.75	200.12	5153
C. P. 47-193*	19.28	15.92	82.57	20.26	223.24	4523
C. P. 44-155	19.17	15.64	81.59	20.26	218.64	4430

CINCLARE TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity		Per Ton	Per Acre
First Stubble (Bowdre-Sharkey clay)						
C. P. 36-105	18.12	15.05	83.06	16.81	208.85	3511
C. P. 34-120	17.93	14.48	80.76	16.70	199.38	3331
C. P. 45-184*	17.35	13.90	80.12	16.54	190.00	3143
Second Stubble (Mhoon very fine sandy loam)						
C. P. 44-101	17.15	13.58	79.18	30.13	184.86	5570
C. P. 45-184*	16.28	13.31	81.76	27.96	180.46	5046
C. P. 44-154	15.99	12.12	75.80	30.59	161.52	4941
C. P. 44-155	18.12	14.69	81.07	24.30	202.93	4931
C. P. 36-13	18.12	14.87	82 06	22.99	205.89	4733
C. P. 36-105	17.54	14.28	81.41	23.80	196.18	4669
C. P. 43-47	18.51	14.79	79.90	22.66	204.54	4635
C. P. 34-120	17.73	13.96	78.74	22.32	190.96	4262
C. P. 29-320	17.73	14.23	80.26	17.45	195.38	3409

Fall Plant Cane (Mhoon very fine sandy loam): planted September 19, 1952 and harvested December 2, 1953. All varieties showed the effects of some cold injury from recent freezes. Terminal buds were affected but not completely killed; while the leaves showed a slight wilted condition and burned and discolored tips.

This field was harvested with mechanical harvester, with close attention being given to the proper scrapping of the different varieties. N. Co. 310 was badly lodged, and necessitated some supplementary hand cutting on portions of rows where the machine missed. Heap rows were burnt immediately after cutting.

Loading, weighing and big mill tests: December 3, 1953.

Fall Plant Cane (Bowdre-Sharkey clay): Planted September 19-20, 1952 and harvested December 2, 1953, with mechanical harvester.

Terminal buds killed by November 10-12 freezes with minimum temperatures of 29 degrees F. Lateral buds were sound, with a few slightly swollen buds near the tops.

Heap rows were burned immediately after cutting. Loaded and hauled during slow and then hard rains, followed by cold and high winds.

Weighted and big mill tests at Cinclare Central Factory on December 3, 1953.

First Stubble (Mhoon very fine sandy loam): planted September 20, 1951. Harvested: 11/20/52 and 10/28/53.

Cane cut with mechanical harvester and heaps burned shortly after cutting.

Loading, weighing and big mill tests: October 29, 1953.

First Stubble (Bowdre-Sharkey clay: planted September 20-21, 1951. Harvested: 11/20/52 and 10/29/53.

Cane cut with mechanical harvester and heaps burned after cutting. Loading, weighing and big mill tests: October 29, 1953.

Second Stubble (Mhoon very fine sandy loam): planted September 20, 1950. Harvested: 11/29/51; 10/22/52 and 10/28/53.

Cane cut with mechanical harvester and heaps burned after cutting: Loading, weighing and big mill tests: October 29, 1953.

(*) Unreleased variety.

GLENWOOD TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity		Per Ton	Per Acre
Fall Plant Cane (Mhoon very fine sandy loam)						
C. P. 48-110*	17.97	14.90	82.92	30.76	206.40	6349
N. Co. 310*	18.28	15.12	82.71	28.78	210.02	6044
C. P. 44-101	16.87	13.60	80.62	32.00	185.20	5926
C. P. 36-105	16.99	13.83	81.40	30.86	188.88	5829
C. P. 48-103*	17.92	14.85	82.87	26.84	205.55	5517
C. P. 47-193*	17.26	14.18	82.16	27.90	194.56	5428
C. P. 45-184*	15.89	12.55	78.98	30.05	168.30	5057
C. P. 44-155	16.13	12.33	76.44	29.58	164.88	4877
First Stubble (Mhoon very fine sandy loam)						
N. Co. 310*	17.91	14.15	79.01	27.03	194.05	5245
C. P. 48-103*	20.13	16.57	82.31	21.62	234.19	5063
C. P. 44-101	18.53	14.72	79.44	23.56	203.42	4793
C. P. 43-47	17.60	13.73	78.01	22.33	187.28	4182
C. P. 44-155	17.60	13.80	78.41	21.75	188.40	4098
C. P. 36-105	18.31	14.26	77.88	20.35	195.86	3986
C. P. 36-13	18.21	14.55	79.90	16.90	200.60	3390
Second Stubble (Mhoon very fine sandy loam)						
C. P. 47-193*	18.38	14.42	78.45	27.45	198.52	5449
C. P. 44-155	17.82	13.81	77.50	23.37	188.56	4407
C. P. 44-101	18.47	14.42	78.07	21.80	198.52	4328
C. P. 44-154	15.28	10.93	71.53	29.14	142.52	4153
C. P. 45-184*	16.55	12.68	76.62	21.20	170.38	3612
C. P. 36-105	18.50	14.87	80.38	16.78	205.89	3455
C. P. 43-47	17.89	13.92	77.81	17.57	190.32	3344
C. P. 36-13	18.08	13.57	75.06	15.93	184.69	2942
C. P. 34-120	17.56	13.58	77.33	15.08	184.86	2788

Fall Plant Cane (Mhoon very fine sandy loam): planted September 29-30, 1952 and harvested November 26, 1953.

First Stubble: planted September 19, 1951. Harvested: 11/27/52 and 10/14/53.

Machine cut and burned October 14-15, 1953.

Second Stubble: planted September 21, 1950. Harvested: 12/5/51; 10/21/52 and 10/14/53.

Machine cut and burned October 14-15, 1953.

Analyses from juices of the small mill, of ten stalks of each variety, taken from the burnt neap rows. Variety plots weighed on the Glenwood Cooperative Inc., scale.

(*) Unreleased variety.

RESERVE TEST FIELD

Variety	Normal Juice			Acidity	Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity			Per Ton	Per Acre
Fall Plant Cane (Mhoon very fine sandy loam)							
N. Co. 310*	17.32	13.34	77.02	2.3	33.33	180.94	6031
C. P. 48-124*	16.87	12.85	76.17	2.9	33.43	173.10	5787
C. P. 48-110*	16.61	13.02	78.39	2.1	29.79	175.82	5238
C. P. 36-105	17.02	13.29	78.08	2.5	29.09	179.14	5211
C. P. 44-101	17.26	13.52	78.33	2.7	27.30	183.84	5019
C. P. 47-49*	16.09	13.11	81.48	2.3	27.63	177.26	4898
C. P. 44-155	17.41	13.78	79.15	2.0	25.79	188.08	4851
C. P. 48-103*	16.44	12.86	78.22	2.7	26.74	173.26	4633
C. P. 47-193*	16.44	12.14	73.84	3.0	28.05	161.84	4540
C. P. 45-184*	15.89	12.79	80.49	3.0	26.12	172.14	4496
C. P. 43-47	17.02	13.09	76.91	2.5	24.77	176.94	4383
C. P. 49-27*	16.24	11.58	71.31	2.6	26.87	153.08	4113
First Stubble (Mhoon very fine sandy loam)							
C. P. 48-103*	17.65	14.74	83.51	1.6	29.93	203.74	6098
C. P. 44-101	16.66	13.47	80.85	2.2	31.70	183.02	5802
C. P. 36-13*	18.56	14.65	78.93	1.8	26.62	202.25	5626
C. P. 45-153*	17.37	14.27	82.15	1.5	28.70	196.02	5607
C. P. 47-193*	16.89	13.64	80.76	2.3	30.17	185.84	5384
C. P. 36-105	16.28	13.86	85.14	2.1	23.87	189.36	4520
C. P. 45-184*	16.25	13.16	80.98	2.0	25.38	178.06	4519
C. P. 44-154	16.38	12.66	77.29	2.5	25.99	170.06	4420
N. Co. 310*	16.93	13.07	77.20	2.1	24.63	176.62	4350
C. P. 43-47	18.54	15.43	83.23	2.7	17.30	214.11	3721
C. P. 44-155	18.00	14.65	81.39	1.9	18.19	202.25	3679
C. P. 34-120	17.18	14.11	82.13	1.9	18.88	193.37	3651
Second Stubble (Mhoon very fine sandy loam)							
C. P. 44-154	16.01	12.42	77.58	2.0	35.39	166.30	5885
C. P. 44-101	17.98	14.28	79.42	2.4	28.53	196.18	5597
C. P. 44-155	18.95	15.64	82.53	1.8	24.26	218.64	5304
C. P. 36-13	18.17	14.94	82.22	1.8	23.26	207.04	5029
C. P. 43-47	18.00	14.73	81.83	2.0	28.88	203.58	4735
C. P. 45-184*	15.56	11.95	76.80	2.2	24.14	158.80	4586
C. P. 34-120	17.55	13.75	78.35	2.5	23.40	187.60	4529
C. P. 34-105	17.18	13.96	81.26	2.4	21.38	190.96	4468
C. P. 47-193*	18.10	14.62	80.77	2.7	-----	201.74	4313

Fall Plant Cane: planted September 25, 1952 and harvested November 14, 1953 Machine cut and burned.

First Stubble: planted October 3, 1951. Harvested: 12/10/52 and 11/13/53. Machine cut and burned.

Second Stubble: planted September 22, 1950. Harvested: 12/13/51; 10/27/52 and 11/13/53. Machine cut and burned.

All varieties weighed in narrow gauge cars, and juice analyses from big mill car samples at the Reserve Sugar Factory.

(*) Unreleased variety.

SHIRLEY TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity		Per Ton	Per Acre
Fall Plant Cane (Yahola very fine sandy loam)						
C. P. 48-103*	16.36	12.84	78.48	27.63	172.94	4778
C. P. 45-184*	17.87	14.76	82.60	19.20	204.06	3918
C. P. 44-101	16.85	13.09	77.68	21.18	176.94	3748
C. P. 47-193*	15.54	11.82	76.06	23.79	156.80	3730
C. P. 36-105	16.48	12.87	78.09	21.15	173.42	3668
N. Co. 310*	13.47	9.64	71.57	27.40	119.30	3269
C. P. 44-155	15.63	12.30	78.69	16.04	164.40	2637
C. P. 48-110*	13.57	9.57	70.52	21.56	117.90	2542
First Stubble (Yahola very fine sandy loam)						
N. Co. 310*	15.91	12.36	77.69	31.74	165.36	5249
C. P. 48-103*	16.73	13.45	80.39	22.10	182.70	4038
C. P. 48-110*	14.76	11.30	76.56	26.02	148.70	3869
C. P. 34-120	15.68	12.19	77.74	23.03	162.64	3746
C. P. 36-105	14.81	11.04	74.54	23.94	144.64	3463
C. P. 44-101	15.22	11.71	76.94	21.26	160.06	3403
C. P. 45-184*	14.94	11.41	76.37	22.55	150.36	3391
C. P. 29-320	17.13	12.75	74.43	18.29	171.50	3137
C. P. 36-13	15.31	12.11	79.10	19.32	161.36	3117
C. P. 44-155	15.00	11.25	75.00	18.07	147.90	2673
C. P. 43-47	14.11	10.20	72.29	17.73	129.90	2303
Second Stubble (Yahola very fine sandy loam)						
C. P. 45-184*	15.37	11.78	76.64	20.48	156.18	3199
C. P. 34-120	14.63	10.70	73.14	19.54	138.70	2710
C. P. 36-105	16.48	13.00	78.88	14.34	175.50	2517
C. P. 44-155	16.39	12.77	77.91	13.74	171.82	2361
C. P. 29-320	17.04	13.49	79.17	9.36	183.34	1716
C. P. 43-47	15.65	12.19	77.89	10.36	162.64	1685
C. P. 44-101	17.17	13.88	80.84	8.77	189.68	1663
C. P. 36-13	18.43	15.41	83.61	5.50	214.77	1181

Fall Plant Cane: planted September 22, 1952 and harvested with mechanical harvester November 10, 1953. Extremely heavy borer damage done in all varieties. Heap rows burned with Woolery burner immediately after cutting.

First Stubble: planted October 5, 1951. Harvested: 11/24/52 and 11/11/53. Heavy cane borer infestation. Machine cut and burned with Woolery burner.

Second Stubble: planted September 26, 1950. Harvested: 11/20/51; 11/24/52 and 11/10/53. Machine cut and heap rows burned with Woolery burner. Heavy cane borer infestation.

Analyses: Meeker Sugar Cooperative Inc., Laboratory small mill, from juices of detrashed samples of ten stalks of each variety.

(*) Unreleased variety.

CAFFERY TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity		Per Ton	Per Acre
Fall Plant Cane (Baldwin silty clay loam)						
No. Co. 310*	18.04	15.51	85.98	31.04	216.47	6719
C. P. 47-193*	17.21	14.37	83.50	28.12	197.69	5559
C. P. 48-103*	17.84	15.21	85.26	25.45	211.47	5382
C. P. 44-101	17.16	14.16	82.52	25.03	194.22	4861
C. P. 45-184*	16.93	13.91	82.16	25.45	190.16	4840
C. P. 43-47	17.07	14.18	82.07	23.78	194.56	4627
C. P. 36-105	16.61	13.23	79.65	25.03	179.18	4485
C. P. 48-110*	16.52	14.03	84.93	21.07	192.08	4047
C. P. 36-13	16.30	13.34	81.84	22.32	180.94	4039
C. P. 44-155	16.40	13.65	82.23	20.86	186.00	3880
C. P. 44-154	15.51	11.85	76.40	24.62	157.25	3871
Co. 290	14.96	11.66	77.89	18.15	154.30	2801
First Stubble (Baldwin silty clay loam)						
C. P. 45-184*	17.29	13.91	80.45	32.42	190.16	6165
C. P. 44-101	17.57	14.26	81.16	29.88	195.86	5852
C. P. 44-154	16.51	13.09	79.29	31.46	176.94	5567
C. P. 36-105	17.29	13.79	79.76	23.43	188.24	5337
C. P. 36-13	17.25	13.66	79.19	26.09	186.16	4857
F. 31-762*	17.27	14.06	81.41	23.92	192.56	4606
Co. 290	15.54	11.99	77.16	27.30	159.44	4353
C. P. 44-155	18.27	15.07	82.48	19.80	209.19	4142
C. P. 43-47	17.27	14.11	81.71	19.11	193.37	3695
Second Stubble (Baldwin silty clay loam)						
C. P. 44-101	18.75	15.12	80.64	25.79	210.02	5416
C. P. 47-193*	18.31	13.65	74.55	28.74	186.00	5346
F. 31-762	17.66	14.59	82.62	24.83	201.24	4997
C. P. 45-184*	16.51	13.21	80.01	27.08	178.86	4844
C. P. 44-154	16.42	13.00	79.17	26.60	175.50	4668
C. P. 43-47	18.40	14.59	79.29	22.56	201.24	4540
C. P. 44-155	19.05	15.75	82.68	19.02	220.45	4139
Co. 290	17.18	13.73	79.92	21.92	187.28	4105
C. P. 36-105	16.99	13.43	79.05	20.15	182.38	3675
C. P. 36-13	17.99	14.68	81.60	15.48	202.76	3139

Fall Plant Cane: planted September 18, 1952 and harvested December 20, 1953. Heap rows burned, loaded and weighed December 21, 1953. Buds of cane killed by December 15 freeze. Samples of each variety for little mill juice analyses taken December 17. Loaded and hauled under very muddy conditions. (Machine cut).

First Stubble: planted October 10, 1951. Harvested 11/24/52 and 11/3/53 (machine cut and burned).

Second Stubble: Planted September 14, 1950. Harvested 12/6/51; 11/24/52 and 11/3/53 (machine cut and burned).

Analyses: Columbia Sugar Company laboratory, from juices of small mill, of samples of ten stalks of each variety, taken at random from the burnt heaprows.

(*) Unreleased variety.

YOUNGSVILLE TEST FIELD

Variety	Normal Juice			Acidity	Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity			Per Ton	Per Acre
Fall Plant Cane (Richland-Olivier silt loam)							
Co. 290	16.62	12.60	75.81	2.5	37.76	169.10	6385
C. P. 47-193*	16.52	14.59	88.32	1.8	31.00	201.24	6238
N. Co. 310*	18.67	15.28	81.84	2.0	28.88	212.66	6142
C. P. 44-101	17.36	14.13	81.39	1.9	31.68	193.71	6137
C. P. 44-154	16.48	12.51	75.91	3.0	34.80	167.66	5835
C. P. 44-153*	17.08	12.45	72.89	1.7	34.91	166.75	5821
C. P. 48-103*	19.14	16.07	83.96	2.2	24.58	225.79	5550
F. 31-762*	17.36	14.03	80.82	2.0	28.69	192.08	5511
C. P. 36-13	17.36	14.24	82.03	1.6	27.94	195.54	5463
C. P. 45-73*	17.92	14.40	80.36	2.1	27.30	198.21	5411
C. P. 45-184*	16.80	13.39	79.70	2.3	29.15	181.74	5298
C. P. 29-116	16.29	12.25	75.20	1.9	31.91	163.60	5220
C. P. 48-110*	18.02	14.41	79.97	1.4	24.78	198.36	4915
C. P. 46-51*	15.26	10.64	69.72	2.6	34.79	137.68	4790
C. P. 44-155	17.83	14.57	81.72	1.7	23.10	200.92	4641
C. P. 43-47	17.92	14.88	83.04	2.0	22.18	206.06	4570
First Stubble (Richland-Olivier silt loam)							
C. P. 36-13	18.39	15.11	82.16	1.5	42.82	209.86	8986
C. P. 44-101	18.20	15.29	84.01	1.7	40.35	212.83	8588
C. P. 45-184*	17.46	14.31	81.96	2.1	42.47	196.67	8353
Co. 290	17.27	13.67	79.15	1.9	44.26	196.32	8247
C. P. 29-116	17.36	12.81	73.79	1.6	46.19	172.46	7966
F. 31-762*	18.30	15.12	82.62	1.5	37.44	210.02	7863
C. P. 44-153*	17.64	13.43	76.13	2.0	39.59	182.38	7220
C. P. 44-155	18.86	14.79	78.42	1.2	34.50	204.54	7057
C. P. 45-73*	18.11	14.97	83.66	1.7	33.59	207.52	6971
C. P. 46-51*	16.24	12.27	75.55	1.8	40.88	163.92	6701
C. P. 33-224*	17.64	14.03	79.54	1.3	34.11	192.08	6552
C. P. 44-154	16.90	14.06	83.20	2.0	32.92	192.56	6339
C. P. 45-150*	16.52	12.33	74.64	2.8	32.71	164.88	5393
C. P. 48-103*	19.23	15.85	82.42	1.2	-----	222.10	----
N. Co. 310*	18.02	15.62	86.68	2.0	-----	218.32	----
Second Stubble (Richland-Olivier silt loam)							
C. P. 44-154	17.46	14.22	81.44	1.7	28.19	195 22	5503
C. P. 44-101	18.25	15.11	82.79	2.1	25.04	209.86	5255
C. P. 44-155	18.58	15.87	85.41	1.9	22.37	222.42	4976
C. P. 45-184*	17.74	14.60	82.30	1.8	24.00	201.40	4834
C. P. 29-116	16.90	13.17	77.93	1.9	23.75	178.22	4233
Co. 290	16.29	12.87	79.01	2.2	23.15	173.42	4015
C. P. 33-224*	18.11	15.05	83.10	1.5	17.92	208.85	3743
C. P. 46-51*	16.34	13 02	79.68	2.0	20.97	175.82	3687
C. P. 36-105	17.18	13.85	80.62	2.4	18.57	189.20	3513
C. P. 45-150*	16.71	12.81	76.66	3.1	20.11	172.46	3468
F. 31-762*	16.90	14.11	83.49	2.2	17.79	193.37	3440
C. P. 36-13	16.80	13.60	80.95	1.8	16.85	185.20	3121

YOUNGSVILLE TEST FIELD

Fall Plant Cane: planted September 4, 1952. Hand cut, top and bottom, and burned December 10, 1953.

First Stubble: planted October 17-18, 1951. Harvested 11/11/52 and 12/10/53. Hand cut, top and bottom burned.

Second Stubble planted September 11, 1950. Harvested 11/11/51; 12/6/52 and 12/11/53. Hand cut. top and bottom burned.

Analyses: Youngsville Sugar Factory small mill laboratory, from detrashed samples of thirty stalks of each variety.

(*) Unreleased variety.

BILLEAUD TEST FIELD

Variety	Normal Juice			Tons Per Acre	Pounds commercially Recoverable Sugar, Raw Value	
	Brix	Sucrose	Purity		Per Ton	Per Acre
Fall Plant Cane (Lintonia-Olivier silt loam)						
C. P. 44-154	17.74	13.47	75.93	20.44	183.02	3741
C. P. 36-13	17.74	14.14	79.71	15.98	193 88	3098
C. P. 44-101	17.64	13.17	74.66	17.24	178.22	3073
Co. 290	16.96	13.05	76.95	17.38	176.30	3064
C. P. 47-49*	17.84	13.80	77.35	15.95	188.40	3005
C. P. 36-105	18.13	14.71	81.14	13.03	203.26	2648
C. P. 44-155	16.96	13.53	79.78	13.95	184.01	2567
C. P. 48-110*	16.96	13.00	76.65	14.50	175.50	2545
C. P. 29-116	16.67	12.17	73.01	15.28	162.32	2480
C. P. 47-193*	18.13	14.46	79.76	12.31	199.16	2452
C. P. 45-184	17.16	13.26	77.27	12.07	179.66	2168
First Stubble (Lintonia-Olivier silt loam)						
C. P. 36-13	19.67	15.39	78.24	28.00	214.44	6004
C. P. 36-105	17.89	13.75	76.94	29.20	187.60	5478
C. P. 44-101	19.32	14.98	77.54	25.00	207.68	5192
C. P 44-154	18.67	14.39	77.08	24.74	198.03	4899
C. P. 29-116	17.77	13.51	76.03	25.74	183.67	4728
C. P. 44-155	19.03	15.09	79.30	20.93	209.53	4385
C. P. 45-184*	18.55	14.38	77.52	21.86	197.86	4325
Co. 290	18.27	13.48	73.78	23.04	183.18	4220
F. 31-762*	18.74	14.69	78.39	20.50	202.93	4160
C. P. 43-47	18.67	13.96	74.77	21.33	190.96	4073
C. P. 46-51*	16.61	12.08	72.73	23.45	160.88	3773
C. P. 36-183	17.57	13.59	77.35	18.95	185.03	3506
C. P. 33-224*	17.57	13.24	75.36	11.92	179.34	2138
C. P. 48-103*	20.80	16.21	77.93	-----	228.16	----
N. Co. 310*	18.80	15.18	80.74	-----	210 98	----

Fall Plant Cane: planted September 12, 1952. Harvested by hand, top and bottom, and heaprows burned, December 4-5, 1953.

Analyses from small mill samples, Billeaud Sugar Factory, December 5, 1953.

First Stubble: planted October 1, 1951. Harvested 11/22/52 and 10/24/53. Hand cut, top and bottom and burned.

Analyses from big mill samples, Billeaud Sugar Factory, October 24, 1953.

(*) Unreleased variety.

Evaluation of Varieties Season of 1953

The test field results, consisting of averages of fall plant cane, first and second stubble, are used in the evaluation of varieties. For each test field, the three or four highest ranking varieties in the order given performed best from a sugar-per-acre standpoint during the 1953 season. The average normal juice sucrose for each variety is also given.

CINCLARE (Mhoon very fine sandy loam)

C. P. Nos.	44-101	36-105	44-155
Avg. sucrose	13.13	13.63	14.28

CINCLARE (Bowdre-Sharkey clay) (Average of plant cane and first stubble)

C. P. Nos.	44-154	47-193*	44-101
Avg. sucrose	12.93	13.89	13.15

GLENWOOD (Mhoon very fine sandy loam)

C. P. Nos.	44-101	44-155	36-105
Avg. sucrose	14.25	13.31	14.32

RESERVE (Mhoon very fine sandy loam)

C. P Nos.	44-101	47-193*	36-105	44-155
Avg. sucrose	13.76	13.80	13.70	14.69

SHIRLEY (Yahola very fine sandy loam)

C. P. Nos.	45-184*	36-105	44-101	44-155
Avg. sucrose	12.65	12.46	12.89	12.16

CAFFERY (Baldwin silty clay loam)

C. P. Nos.	44-101	45-184*	44-154	43-47
Avg. sucrose	14.51	13.68	12.65	14.29

BILLEAUD (Lintonia-Olivier silt loam)

C. P. Nos.	36-13	44-154	36-105	44-101
Avg. sucrose	14.77	13.93	14.23	14.09

YOUNGSVILLE (Richland-Olivier silt loam)

Variety	C.P. 44-101	Co. 290	C.P. 45-184*	C.P. 29-116
Avg. sucrose	14.84	13.05	14.10	13.08

(*) Unreleased variety.

Harvesting and Testing of Varieties

The twenty-two sugar cane variety test fields were harvested and tested during the period of October 14 to December 21, 1953. All variety plots were harvested in accordance with regular field practices, and weighed on plantation scales. Laboratory facilities for milling samples and juice analyses of varieties were provided by the test field cooperators.

The following five test fields were harvested with mechanical harvesters: Cinclare, Glenwood, Reserve, Shirley and Caffery. The other two fields, Billeaud and Youngsville, were harvested by hand cutters.

Tabulation of Results

For each of the test fields the final results for the 1953 season are presented in tabulated form. Complete information on rainfall is given in Table A and in Table B, freeze data is given for the three coldest months, January, November and December 1953.

The following uniform headings are used in the test field tables:

(1) Variety; (2) Normal Juice: (Brix, Sucrose and Purity); (3) Tons per Acre; and (4) Pounds of Commercially Recoverable Sugar, Raw Value; Per Ton and Per Acre.

Sugar per acre results are used as a basis of ranking the varieties.

TABLE A—RAINFALL—SEASON OF 1953

Location	January		February		March		April		May		June	
	days	inches	days	inches	days	inches	days	inches	days	inches	days	inches
Cinclare*	6	3.75	12	8.50	6	7.70	6	6.84	9	16.04	9	6.41
Glenwood	3	3.50	10	4.85	3	7.40	5	9.38	8	5.65	9	9.37
Reserve*	5	1.24	12	6.31	11	7.09	7	10.06	7	1.77	12	7.94
Caffery	3	4.50	8	4.65	4	3.55	5	6.50	7	5.50	7	4.20
Cheneyville*	5	3.52	12	9.18	12	6.19	10	8.28	11	30.52	7	4.20
Billeaud	4	2.79	10	7.02	2	2.66	4	7.74	7	12.10	4	1.93
Youngsville*	3	1.98	10	8.80	3	1.42	8	8.31	8	11.18	5	1.74

Location	July		August		September		October		November		December		TOTAL	
	days	inches	days	inches	days	inches	days	inches	days	inches	days	inches	days	inches
Cinclare*	15	7.15	13	4.46	T	T	2	0.68	10	6.60	10	9.32	98	77.7
Gelnwood	13	9.01	8	4.55	3	0.85	2	1.33	7	8.15	10	11.81	81	75.8
Reserve*	12	10.02	14	5.55	2	0.40	1	0.35	10	6.05				
Caffery	8	4.60	10	9.70	1	1.00	1	1.80	4	8.15	7	9.20	65	63.3
Cheneyville*	9	3.18	11	3.86	2	1.04	1	1.53	8	4.82	11	4.84	100	86.0
Billeaud	11	6.15	9	6.88	2	1.31	2	0.96	7	6.72	12	7.51	74	53.7
Youngsville*	8	6.02	10	5.21	1	0.80	3	1.44	4	5.93	9	7.20	72	58.0

* Climatological Data Louisiana, U. S. Department of Commerce Weather Bureau.
Other Locations: from cooperators' rainfall records.
Days: Number of days rain occurred.
Ins: Amount of rain expressed in inches.
T: trace of rain.

TABLE B—FREEZING AND BELOW 32 DEGREES FAHRENHEIT TEMPERATURES—SEASON OF 1953.

Date	Cheneyville*	Cinclare*	Napoleonville	Reserve*	Franklin*	Lafayette*
January 4	32	28	31	--	30	31
11	--	29	31	--	32	27
12	28	26	--	--	--	--
13	32	31	--	--	--	--
19	31	--	--	--	--	--
November 10	28	29	32	--	--	30
11	27	29	32	--	--	32
12	31	29	--	--	--	--
13	32	--	--	--	--	--
23	30	--	--	--	--	--
December 7	28	30	--	--	--	32
10	28	--	--	--	--	--
15	25	27	--	--	32	31
16	29	30	32	--	--	27
23	27	29	32	--	--	29
24	22	23	24	--	27	25
25	32	20	--	--	--	31
26	25	24	27	--	31	27
27	25	30	--	--	--	32
31	--	32	--	--	--	--

(Cheneyville*, Cinclare*, Reserve*, Franklin*, and Lafayette*): Climatological Data Louisiana, U. S. Department of Commerce Weather Bureau.
Lafayette*: CAA AP (Civil Aero Administration, Air Port).
Napoleonville: Godchaux Sugars Inc., Elm Hall Plantation.

In each experiment the varieties are tabulated to represent their respective ratings, from the standpoint of highest to lowest sugar per acre yield in the order given.

The table of the Production and Marketing Administration (Sugar Branch), entitled "Commercially Recoverable Sugar Determination 833.2, ADMT. 1, Revised for Louisiana Sugar Cane 1953 Crop," was used in all of the sugar calculations.

Summary

The data and results presented in this report of "Sugar Cane Test Fields Season Of 1953,'" were obtained during the cane milling season mostly under favorable weather conditions, with the exception of the very adverse rainy and muddy conditions that prevailed in the month of December. There were really no injurious freezes early in the season. In the month of November, below freezing temperatures occurred only at two test fields, Cinclare and Shirley; while at all of the test fields there was a series of freezes from December 7 to December 27.

Test field results indicate that C.P. 44-101 was the outstanding variety of the 1953 Experiment Station test fields, showing splendid performance and great adaptability to the various soils of the cane belt. C.P. 36-105 was the next highest ranking commercial cane, and maintained its importance at the Cinclare, Glenwood, Reserve and Shirley test fields. It has responded best on the light alluvial soils of the Mississippi and Red River areas.

C.P. 44-155 showed best performance at the Cinclare, Glenwood, Reserve, and Shirley test fields, with a third place ranking.

C.P. 44-154, a commercial variety released in 1952 especially for the Teche and western areas, made its best showing by ranking first at Cinclare on Bowdre-Sharkey clay soil. It also made a favorable showing at the Billeaud and Caffery test fields, where it ranked second and third respectively.

Co. 290, which was released as a commercial cane in 1933, still maintains an important ranking at Youngsville where it was only exceeded by one variety, C.P. 44-101.

At the Billeaud test field the following four varieties outranked Co. 290: C.P. Nos. 36-13, 44-154, 36-105 and 44-101; while at the Caffery test field, the following six commercial canes outranked Co. 290: C.P. Nos. 44-101, 44-154, 43-47, 36-105, 44-155 and 36-13.

In the unreleased varieties, N. Co. 310 made the most impressive showing by ranking first five times; compared to three first place ratings for each of the other three varieties: C.P. Nos. 48-103, 47-193 and 45-184.

Acknowledgments

The test field cooperators showed the usual interest and gave excellent cooperation; making it possible to obtain complete data and results on all of the sugar cane variety fields.

To all listed below the writer expresses appreciation for the great amount of interest and assistance, and for the splendid services rendered with the work in fields, sugar houses, and laboratories.

Cinclare Central Factory, Cinclare: Kenneth McAllenan, E. W. McNeil, R. T. Gibbens, Jr., U. J. Richard, J. L. Roussel, Paul Courrege, Stanley Alexandry and L. M. Barlow.

Glenwood Cooperative, Inc., Napoleonville: Bronier Thibaut, Wilton Roger, A. P. George, C. C. Singleton and Norman Hebert.

Godchaux Sugars, Inc., Reserve: Walter Godchaux, Jr., P. L. Godchaux, II, Richard J. McCarthy, W. E. McFarland, R. N. Pollet, J. V. Fourmy, Dennis Domangue and Roland Diaz.

Haas Investment Co., (Shirley Plantation), Bunkie: Samuel Haas, Curtis Earnest, Carl Hunt and Meeker Sugar Cooperative, Inc., Meeker, Louisiana.

Billeaud-Reaux Plantation and Billeaud Sugar Factory, Broussard: P. L. Billeaud, Blaise Reaux, Emile Bouy and Emile Billeaud.

Katy Plantation and Columbia Sugar Factory, Franklin: John M. Caffery, Don T. Caffery, Clegg Caffery, T. D. Fay, Harry Trowbridge, Marjorie M. Zimmerman, Gertrude H. Landry, Mrs. D. L. Johnson and John Smith, Jr.

Young's Industries Inc., and Youngsville Sugar Factory, Youngsville: M. V. Yarbrough, Andre Reaux, Wilton Melancon, A. W. Viguerie, and Mrs. George Scranton.

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FERTILIZER INVESTIGATIONS ON SUGARCANE IN 1953

By Lester G. Davidson, Associate Chemist, Sugar Crops Section, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture.

Sixteen field fertilizer experiments were conducted by the Soil Fertility Project of the Houma Station during 1953, on some of the major soil types used for sugarcane production in Louisiana. About half were large plot experiments, with plot sizes ranging from 0.15 to 0.60 acre. The other half were small plot experiments, with the individual plots ranging from 1/50- to 1/70-acre in area. In the large plot experiments, the fertilizer was applied by machine, the cane mechanically harvested, and weighed on the factory scale. The small plot experiments were fertilized by hand. Some of these were cut by hand and some mechanically harvested.

In all of the tables included in this report, the Brix, sucrose, and purity figures have been converted to normal juice. Yields of sugar per ton of cane were obtained from the tables of the Production and Marketing Administration (Sugar Branch), entitled "Commercially Recoverable Sugar Determination, Amdt. 1, Revised for Louisiana Sugar Cane 1953 Crop", published in the October 15, 1953 issue of *The Sugar Bulletin.*

Tabulated data for some of these experiments are included in this report. Types of studies conducted in field fertilizer experiments harvested in 1953 included N-P-K, lime, effect of plant cane fertilization on stubble yields, fall versus spring fertilization, gypsum, soil conditioners, magnesium, and variety X fertilizer interaction experiments.

Three N-P-K experiments were conducted in the Western Section on Baldwin silt loam. In the plant cane experiment on Albania Plantation, there was no significant response to 40 or 80 pounds of nitrogen per acre, nor to a mixture supplying 80 each of nitrogen, phosphate, and potash. Yields of the three varieties used, Co. 290, C.P. 36/105 and C.P. 44/101, did not differ significantly. In the plant cane experiment with C.P. 44/155 on Oaklawn Plantation, no significant yield increases were obtained from the use of 50, 75, or 100 pounds of nitrogen, or from 100 pounds of nitrogen plus 60 pounds each of phosphate and potash. In the following table data from the experiment with Co. 290 first stubble cane on Oaklawn Plantation are shown.

Fertilizer treatments N - P_2O_5 - K_2O	Sucrose	Purity	Cane per acre	Sugar per acre
Pounds per acre	%	%	Tons	Pounds
0-0-0	11.52	74.76	21.56	3279
75-0-0	11.42	75.13	28.20	4244
100-0-0	12.09	76.23	27.93	4497
100-60-60	11.08	73.72	27.87	4050
100-60-60[1]	11.61	75.19	30.17	4634
100-120-120[2]	10.89	71.93	30 26	4297
100-120-120[3]	11.60	73.56	27.22	4176
Least difference for significance at 19 to 1 odds =			2.39	662
Least difference for significance at 99 to 1 odds =			3.20	887

[1] 1-1/4 tons dolomite per acre had been applied to plant cane.

[2] 2-1/2 tons dolomite per acre had been applied to plant cane.

[3] 2 tons of oyster shell lime per acre had been applied to plant cane.

These data show that a highly significant yield increase was obtained from the use of 75 pounds of nitrogen per acre, which gave about the same yield as 100 pounds of nitrogen, either alone or in a complete mixture.

Two N-P-K experiments were conducted on heavy soil in the Eastern area. An experiment with four varieties of first stubble cane on virgin Sharkey soil on Georgia Plantation showed no response to 50 or 100 pounds of nitrogen per acre, or to 100 pounds of nitrogen plus 120 pounds each of phosphate and potash. Highest yields of cane and sugar per acre were obtained from

C.P. 36/105 and C.P. 44/101, and lowest yields from C.P. 29/116 and C.P. 34/120. Data from an experiment with C.P. 44/101 first stubble cane on Bowdre clay on Cinclare Plantation are shown in the following table.

Nitrogen per Acre	Sucrose	Purity	Cane per acre	Sugar per acre
Pounds	%	%	Tons	Pounds
0	13.55	77.65	16.85	3107
36	13.90	78.58	22.07	4193
60	13.84	78.70	26.62	5031
96	14.10	78.67	30.14	5823
150	13.93	78.58	35.77	6814
Least difference for significance at odds of 19 to 1 =			2.16	408
Least difference for significance at odds of 99 to 1 =			2.87	542

The data show that large increases in cane and sugar yields, almost directly proportional to the amount of nitrogen applied, were obtained. Since there was no additional response to the use of phosphate or potash, or both, with the nitrogen, data for fertilizer mixtures were not included in the table.

Two N-P-K experiments were conducted on mixed soil in the Eastern area. Condensed data from an experiment with C.P. 36/105 first stubble cane on Mhoon silt loam on Mary Plantation are shown in the following table.

Nitrogen per Acre	Sucrose	Purity	Cane per acre	Sugar per acre
Pounds	%	%	Tons	Pounds
0	13.43	79.94	28.18	5140
50	13.46	80.25	31.50	5761
100	13.34	79.86	33.38	6038

Large yield increases were obtained from the use of 50 pounds of nitrogen per acre, with an additional small but significant yield increase from 100 pounds of nitrogen per acre. Since there was no appreciable response to phosphate or potash, data for fertilizer mixtures are not included in the table. In another experiment, with C.P. 36/105 first stubble cane on Mhoon very fine sandy loam on Aragon Plantation, fertilizer treatments used included 60 and 90 pounds of nitrogen per acre, and a treatment supplying 90 pounds of nitrogen and 80 pounds of potash. Highest yields were obtained from the use of 60 pounds of nitrogen per acre, which gave yield increases amounting to 8.88 tons of cane and 1888 pounds of sugar per acre as compared to the unfertilized controls.

Two N-P-K experiments were conducted on Commerce very fine sandy loam in the Eastern Section. Acreage yields of the three varieties of plant cane in the experiment on Alma Plantation are shown in the following table.

Fertilizer treatments N - P_2O_5 - K_2O	Sucrose	Purity	Cane per acre	Sugar per acre
Pounds per acre	%	%	Tons	Pounds
0-0-0	11.50	74.64	35.42	5377
40-0-0	11.19	74.25	36.19	5320
80-0-0	11.22	74.01	37.25	5491
80-80-0	11.13	73.77	37.01	5403
80-0-80	11.34	74.48	37.99	5672
80-80-80	11.40	74.92	38.50	5783

Yields of sugar per acre were significantly higher with the 80-80-80 treatment as compared to all except the 80-0-80 treatment, indicating that the main response was to nitrogen and potash. In both cane and sugar per acre, C.P. 36/105 gave the highest yield; a significantly lower yield was obtained from C.P. 36/13; and the lowest yield was from C.P. 44/101. In an experiment with C.P. 44/101 first stubble cane on St. Rose Plantation, significant yield increases were obtained from the use of 50 pounds of nitrogen per acre, with no additional response to 100 pounds of nitrogen. An additional significant yield increase resulted from the use of 100 pounds of potash combined with 50 or 100 pounds of nitrogen per acre. There was no appreciable response to phosphate. Data showing the average yield increases resulting from the use of nitrogen and of potash are shown in the following table.

Fertilizer per acre	Sucrose	Purity	Cane per acre	Sugar per acre
	%	%	tons	pounds
No N	14.55	80.98	27.54	5525
50 lbs. N	14.79	81.59	31.74	6491
100 lbs. N	14.52	81.04	32.69	6541
No. K_2O	14.59	81.00	29.74	5984
100 lbs. K_2O	14.65	81.40	31.58	6385

Fertilizer recommendations are based on average results for the past several years. In the Western Section, average results of field fertilizer experiments indicate that 40 pounds of nitrogen per acre are sufficient for plant cane. Stubble cane requires about 60 to 80 pounds of nitrogen per acre, and profitable response is often obtained from the use of up to 100 pounds per acre on some of the lighter soils.

In the Eastern Section, average results indicate that 40 pounds of nitrogen per acre should be used on plant cane on light soil, and 60 to 80 pounds on plant cane on heavy soil. The use of 60 to 80 pounds of nitrogen per acre on stubble cane, on both light and heavy soil, will usually result in profitable yield increases.

Although stubble cane on light soils in both the Western and Eastern Sections shows its major response to nitrogen, additional yield increases have been obtained in some experiments from the use of phosphate or potash, or both, especially when combined with the higher rates of nitrogen.

In the Western Section, on Baldwin soil on Albania Plantation, large yield increases have been obtained from the use of complete mixtures as compared to nitrogen alone. In the Eastern Section, on Commerce very fine sandy loam, a well drained soil often slightly elevated above the surrounding land, large yield increases from complete mixtures as compared to nitrogen alone have been obtained in experiments on St. Rose, Mary, Forest Grove, and Webre Plantations. It is reasonable to assume that other growers might increase their yields by using complete mixtures on these soil types. In many cases the additional yield increases from the mixed fertilizers, as compared to yield increases from the nitrogen, are smaller and more variable and are often too small to justify the extra expense involved in their application.

Lime or dolomite, applied with complete mixtures, did not significantly increase yields of sugar per acre in a plant cane and a stubble cane experiment on Baldwin silt loam on Oaklawn Plantation.

Two experiments were fertilized at varying rates as plant cane in 1952, and uniformly fertilized with nitrogen at the plantation rates in 1953, to study the effects of varying rates of plant cane fertilization on yields of stubble cane. In the experiment with C.P. 36/105 on Mhoon very fine sandy loam on Ardoyne Plantation, the plant cane fertilization had little effect on stubble yields. In the experiment with C.P. 44/101 on Sharkey silty clay on Mandalay Plantation, stubble cane from fertilized plant cane gave increased yields amounting to 3.5 tons of cane and 775 pounds of sugar per acre as compared to stubble cane from unfertilized plant cane.

In an experiment on Iberia silty clay on Duhe's Farm, no response was obtained from fertilization either at planting time or in the spring. Previous experiments have shown no consistent significant yield increases due to application of fertilizer at time of planting.

In two experiments with C.P. 36/105 first stubble cane, one on Mhoon silty clay loam on Sarah Plantation, and one on Sharkey silty clay on Georgia Plantation, the application of gypsum had no significant effect on yields of cane or sugar per acre.

The physical condition of Sharkey silty clay was definitely improved by the application of Krilium. However, the stand of cane in this experiment was very gappy, due to a long dry spell after planting, so that

the plot yields were very erratic, and no conclusions could be drawn as to the effect of the improved soil structure on cane yields.

In experiments on Mhoon very fine sandy loam on Aragon Plantation, and on Bowdre clay on Cinclare Plantation, the use of MgO with a mixed fertilizer had no significant effect on yields as compared to the mixed fertilizer without MgO. This is in agreement with the previous 5 years work with MgO.

Previous work at the Houma Station indicated that some varieties responded better to fertilization than other varieties. Four experiments were designed to study possible variety X fertilizer interactions with the newer varieties of cane. In the plant cane experiment on Albania Plantation on Baldwin silt loam and in the stubble cane experiment on Georgia Plantation on Sharkey silty clay, no response to fertilizer was obtained. The plant cane experiment on Commerce very fine sandy loam on Alma Plantation showed fertilizer response, but no significant variety X fertilizer interaction. A significant variety X fertilizer interaction was found in the plant cane experiment on Mhoon silty clay loam on the Houma Station. Data are shown in the following table.

Nitrogen per Acre	Sucrose	Purity	Cane per Acre	Sugar per Acre
Pounds	%	%	Tons	Pounds
		C. P. 44/101		
0	12.97	77.99	19.61	3432
40	13.18	78.31	21.96	3918
80	12.76	78.52	26.23	4504
		C. P. 36/105		
0	13.01	79.38	19.89	3495
40	13.24	79.00	22.80	4088
80	12.76	78.47	22.00	3777
		C. P. 44/155		
0	13.50	79.83	19.08	3501
40	13.28	79.09	23.25	4185
80	13.14	79.35	23.95	4256
		C. P. 48/103		
0	14.49	82.61	16.58	3309
40	14.83	81.71	19.29	3958
80	14.36	81.96	20.66	4080
		C. P. 43/47		
0	13.51	80.13	15.47	2842
40	13.16	78.90	17.89	3186
80	12.86	78.46	16.97	2941

The yield of C.P. 44/101 was relatively high with 80 pounds of nitrogen as compared to check and 40 pounds of nitrogen per acre; the yield of C.P. 43/47 was relatively low with 80 pounds of nitrogen as compared to the unfertilized controls. The results of this experiment indicate that yields of C.P. 43/47 can not be increased as much by high applications of nitrogen as those of C.P. 44/101.

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A REPORT ON THE PRODUCTION OF TRUE SEED OF SUGARCANE AND THE EMPLOYMENT OF NEW BREEDING TECHNIQUES AT CANAL POINT, FLORIDA, FOR THE SEASON OF 1953

By P. H. Dunckelman, Carl O. Grassl, and B. A. Belcher[1]

The production of true seed of sugarcane to develop new varieties for adaptation to conditions in Louisiana is a cooperative undertaking carried out by the American Sugar Cane League, the Louisiana Agricultural Experiment Station, and the United States Department of Agriculture. The details of the breeding work are discussed and planned at a meeting of representatives of these agencies during the month of November, in advance of the sugarcane breeding season. At the last meeting, it was agreed that considerable effort should be placed on the development of new techniques in order that seed production need not be completely dependent on climatic conditions at Canal Point. This report presents the accomplishments of the recently completed breeding season.

The sugarcane breeding program conducted at the United States Department of Agriculture Sugar Plant Field Station, Canal Point, Florida, during the 1953 season, was very successful. The large number of seeds produced and the wide range of crosses completed make it without doubt the best season in the history of the station. It was possible to experiment with various new inside crossing techniques with very satisfactory results. Further improvements on these inside methods are to be expected and will make the breeding work largely independent of climatic conditions.

The 1953 season was particularly favorable in that profuse blooming occurred under natural conditions among many of the breeding canes at Canal Point. In this respect it was similar to the 1948 season but the night temperatures were not as warm. About 75 different kinds of sugarcane were sufficiently male-fertile at one time or another during the 1953 season to be tried as male parents in crosses. A slightly larger number of male-sterile forms which could serve as female parents were available. If these had been mated in all possible combinations, more than 7,000 different crosses could have been produced. A total of 500 different combinations were attempted, and a majority of these were successful.

For a few weeks at the beginning of the season, and for several days in the middle, the climatic conditions were favorable for employing the regular outside crossing technique. Flowering stalks of female plants left growing in the field were supported on a frame, and the flowering stalks of male plants were brought to them and maintained in a weak acid solution. For the most part, the standard Hawaiian solution containing 150 p.p.m. of H_2SO_3 and 85 p.p.m. of H_3PO_4 was used. A total of 87 crosses were made in this manner and all but about a dozen or so were highly successful. An estimate made at Louisiana State University based on germination counts of small samples of 84 of these crosses indicates that about 4,645 seeds were produced per cross (Table 1). Counts made at Houma, Louisiana, and at Canal Point, Florida, based on larger samples but of a smaller number of these same crosses, indicate that this figure is somewhat high and that a combined estimate would be closer to 4,000. Nevertheless, this would still mean a total production of about 300,000 seeds from outside work.

During most of the season, particularly in periods when low tem-

TABLE 1. Summary of the data on sugarcane seed production at Canal Point, Florida, for the 1953 crossing season based on germination counts made at Louisiana State University.

Crossing technique employed	Number of crosses test germinated	Female tassels involved	Estimated total seed production	Estimated seed per tassel	Estimated seed per cross
Regular outside	84	638	390,194	611	4,645
Airlayered canes in water	71	224	44,639	199	629
Airlayered canes in soil mixture	31	51	6,270	123	202
Canes growing in galvanized cans	14	55	46,693	849	3,335
Cut canes in weak acid solutions	90	573	19,633	34	218
TOTALS OR AVERAGES	290	1,541	507,429	329	1,750

peratures and high winds prevailed outside, experiments were conducted to determine which crossing techniques would be most suitable under inside conditions. These experiments were carried out for the most part under controlled temperature and moisture conditions inside a large frame building, with partially glassed-in sides, which had been modified for breeding work. A few of the experiments involved greenhouse tests. The experiments were designed to investigate the practicality of the following four crossing procedures:

1. The use of airlayered canes maintained after flowering in aerated water, circulated in a systematic series of concrete troughs.
2. The use of airlayered canes which had been transplanted into buckets before flowering began.
3. The use of canes growing in galvanized cans.
4. The use of flowering canes cut from the field and maintained in a weak acid solution.

The first of these procedures was an attempt to get away from the stovepipe type of airlayer which proved unsatisfactory under the conditions prevailing at Canal Point. Stalks of cane which show signs of flowering are induced to form aerial roots at any nodes desired, by compacting wet sphagnum moss around two nodes and enclosing tightly with a moisture-proof film. Sufficient roots are formed in a few weeks so that the stalk can be severed from its underground roots and maintained by the newly formed aerial roots, thus enabling it to be moved to a central crossing area. As it is possible to determine several weeks in advance of flowering which stalks are likely to flower, the effort of airlayering by this method can be limited to those stalks which are very likely to be of use in the breeding program.

In these experiments, the airlayered stalks were cut just below the new roots as the tassels began to flower, and were maintained during pollination and seed formation by submerging the rooted portion in aerated water. In most cases the airlayered canes were used as the female parent of a cross, the pollen parent being supplied by cut stalks maintained in a weak acid solution. Seed production by this procedure was only about one-third as high as under very favorable outside conditions, as shown by the estimate of 199 seeds per tassel as compared with 611 (see Figure 1). Contemplated improvements of this procedure involving the use of a nutrient solution which is maintained at an optimum temperature is expected to improve seed production.

When the airlayered canes were transplanted into buckets just before flowering, the results were not as satisfactory, as only 123 seeds per tassel resulted. The bad showing of this group of crosses is probably due to the severe shock to which they were subjected on transplanting, many of them having been transported up to 100 miles before being placed in the sand and muck soil mixture. The advantage of this procedure is that it facilitates the use of canes which are known to flower at a long distance from the place where they are to be used.

The use of canes growing in galvanized cans painted on the inside with an asphalt varnish resulted in the very high seed production of 849 per tassel. This very high production is partly the result of selfing under the favorable inside conditions, and the use of pollen parents which also were growing in cans. The containers used were mainly of a 32-gallon size, though some much smaller 8-gallon containers were partially satisfactory. A 12-15 gallon size is expected to be optimum. The main disadvantage of using canes growing in cans is that they have to be watered and tended for a whole year, and then they may flower at the wrong time or not at all.

The set of experiments in which cut stalks of cane were maintained in a weak acid solution was not very productive, as only 34 seeds per tassel were obtained. This low production is partially explained by the fact that many canes cannot stand this treatment; about two-thirds of the 90 crosses in question were complete failures. The main advantage of this procedure is that large masses of tassels can be handled very economically, but it is necessary to determine in advance if a given kind of sugarcane can stand the treatment under the conditions prevailing.

In general, the experimental inside crossing work has been very satisfactory. Not only has it resulted in the production of about 100,000 viable seeds, but it has pointed out the direction in which further progress may be made. Experience developed during the past season can be expected to lead to higher production of seed in future seasons.

The development of inside techniques for hybridizing sugarcane, as a measure of insurance against unfavorable weather for outside crossing, has established a solid foundation for the production of large numbers of seeds at Canal Point by such techniques. Further work is likely to eliminate much if not all of the dependence on favorable outside weather conditions.

A concerted but diversified approach to the problems of breeding sugarcanes at Canal Point has finally resulted in a record-breaking number of seedlings. As summarized in table 1, results from 290 crosses made with selected parent canes employing four inside techniques in conjunction with the regular outside method, indicate that nearly a half million seeds were obtained. This estimate is based on germination studies made at Louisiana State University, and encompasses all techniques used during the 1953 sugarcane breeding season at the U. S. D. A. Sugar Plant Field Station at Canal Point, Florida.

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SUGARCANE SEEDLING WORK AT THE HOUMA STATION 1953-54

By E. V. Abbott, Leo P. Hebert, C. A. Schexnayder and R. L. Tippett,
Sugar Crops Section, Agricultural Research Service,
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Report to the Contact Committee of the American Sugar Cane League, Houma, La., June 23, 1954.

The number of seedlings handled at Houma during the 1953-54 season was the largest on record. The breeding season of 1953 at the Department's Canal Point, Florida, station was the most successful in history from the standpoint of range of breeding material that bloomed and in numbers of seedlings produced. In addition to setting up crosses in the field, which was possible because of favorable weather, advantage was taken of techniques developed for indoor crosses, and many crosses were successfully set up in heated breeding chambers and in the greenhouse. Seed of 262 crosses was sent to Houma, of which 20 were among those recommended for repetition based on previous progency performance in Louisiana. Approximately 100,000 seedlings were germinated at Houma, and some seed, estimated to yield 25-50,000 seedlings, was frozen for future use. A similar quantity of seed was sent to Baton Rouge; enough to yield approximately 10,000 seedlings (from crosses made primarily for sirup-type canes) was sent to the Department's station at Meridian, Mississippi; and 25,000 seedlings were germinated at the Canal Point station. In all, seed to provide an estimated 400-500,000 seedlings was produced there during the season.

Since the number of seedlings germinated at Houma was considerably in excess of what could be accommodated in the field, some of them were potted and transplanted to the field in "bunches", i.e., several seedlings together instead of singly. This method of field planting is used by the Experiment Station of the Hawaiian Sugar Planters' Association as a means of increasing the number of seedlings that can be accommodated in a given field space. From 2 to 5 seedlings, or sometimes more, are planted in a bunch, the idea being that the most vigorous one will gain the advantage in the clump and will be selected. We know, of course, that in Louisiana we can not always use the most vigorous canes because they often lodge or do not mature satisfactorily in our short growing season. However, our records on some seedling progenies show that only a low percentage of them is selected for replanting, yet such crosses with a low average of selections may yield some outstanding individuals. If the seedlings from such crosses are planted singly it is obvious that considerable field space is wasted on poor seedlings in order to get the good ones. While this is inevitable in any seedling program, ways should be sought of reducing it to the minimum. Since we had field space for only 35-40,000 seedlings and had 100,000 in the greenhouse, trying bunch planting with some crosses seemed preferable to discarding thousands of seedlings without any field trial. Thus, of the 34,419 pots transplanted to the field, 4,895 were in bunches. The total estimated number of seedlings placed in the field from Canal Point seed was 68,684.

Seedlings of several crosses produced by the Louisiana Agricultural Experiment Station at Grand Isle were also handled at Houma. An estimated 5,804 seedlings from 9 crosses were field planted. This made a total of 36,527 pots trans-

planted to the field, with an estimated 76,724 seedlings.

From the 34,867 seedlings from the '51 breeding season surviving as single stool stubbles at Houma, 236 bred at Canal Point and 67 bred at Grand Isle (0.9 percent of the total) were selected for replanting. Forty-seven varieties were assigned '53 series C. P. numbers, 35 for agronomy testing in Louisiana and 12 for breeding. In addition, forty-two '53 series C. P. numbers assigned at Baton Rouge, were received at Houma.

Evaluation of Important Crosses

The final test in the evaluation of any cross is the seedlings it produces that meet commercial requirements sufficiently well to be profitably grown by the industry. Unfortunately, very few seedlings and very few parent combinations come up to this standard. In the early stages of evaluating a cross the criteria are principally disease resistance (to the extent it can be determined at that stage), acceptable plant habit, vigor and sucrose content. As testing proceeds the standards by which the seedlings are judged become more exacting, and with every replanting many seedlings fail in one or more respects. Thus, many individual seedlings, and often the progeny of a cross as a whole, that looked very promising when the first selection was made, fail to meet requirements of a commercial cane in the final stages. Some crosses have produced a relatively large number of seedlings that have received C. P. numbers and have advanced to the test fields, but none that have been released or been seriously considered for release. Examples of these are the crosses C. P. 34/120 x C. P. 30/24 and C. P. 36/105 x C. P. 38/34, both of which have produced a comparatively large number of C. P. numbers that have been advanced to the agronomy test fields, but none that have become serious candidates for release. It is evident, therefore, that a cross can not be fully evaluated until seedlings from it have advanced to the final stages of testing.

Some crosses, however, appear at the present time to merit special consideration. Based primarily on the percentage of individuals selected from complete progenies, and on the quality of these selections in the early stages of testing, some 30 crosses have been recommended to the breeders for repetition in recent years. It was possible to make 20 of these during the 1953 breeding season at Canal Point, and they provided nearly half (47 percent) of the seedlings that were set in the field at Houma. These crosses are listed below with the number of seedlings from them that were transplanted to the field:

'53 Cross No.	Parentage	No. Seedlings Transplanted To Field
7	C. P. 44/126 x C. P. 30/24	1617
9	C. P. 38/34 x Co. 356	1725
22	C. P. 34/120 x C. P. 30/24	574
27	Cl. 41-142 x C. P. 48/53	3305
38	C. P. 44/101 x C. P. 27/108	3344
39	C. P. 43/64 x Co. 356	1443
40	C. P. 43/64 x C. P. 33/372	2864
45	C. P. 48/18 x C. P. 38/34	1296
46	C. P. 48/21 x C. P. 38/34	4546
47	C. P. 43/64 x C. P. 38/34	2477
48	C. P. 43/64 x C. P. 33/224	276
49	C. P. 43/64 x C. P. 36/156	15
101	C. P. 43/74 x C. P. 27/108	804
117	C. P. 33/224 x C. P. 48/126	2333
118	C. P. 43/64 x C. P. 48/126	2919
121	C. P. 43/64 x C. P. 48/53	919
124	C. P. 43/64 x C. P. 44/154	80
176	C. P. 29/320 x C. P. 38/34	1360
197	F. 36-819 x C. P. 48/126	214
325	F. 36/819 x C. P. 30/24	443
	Total	32,554

The physical facilities for handling seedlings at Houma were greatly improved during the past year by the construction of a new greenhouse 100 feet long by 25 feet wide, which will be used during the winter and spring solely for seedling propagation. Some 40,000 pots can be accommodated in this house at one time, in addition to the space that is available for unpotted seedlings in flats. Construction of this greenhouse releases the space in the older units at the station that formerly had to be used for seedlings during the winter, causing interruption of research work on diseases and other problems. An addition to

TABLE 1. Summary of testing and field examination of seedlings in the pre-C. P. stage, new C.P. numbers, parent and foreign varieties at the Houma Station during 1953.

Classification	No. examined in field	No. inoculated with mosaic	No. inoculated with red rot	NUMBER TESTED					No. replanted as Pre-C. P. candidates	C. P. Nos. assigned
				Sucrose C. P. candidates	Sucrose Pre-C. P. candidates	Brix Single stools	Both Controls	Total		
'47 Series from Houma	21			11			3	14		2
'48 Series from Houma	99[1]			55[1]			10	65		
'49 Series from Houma	323			48	157		34	239		44
'49 Series from Canal Point	17[2]			16[2]			0	16		1
'50 Series from Houma	69				38		8	46		
'50 Series from Canal Point	31									
'51 Series from Houma	30702					464	23	487	236	
'51 L Crosses from Grand Isle	6760					149	13	162	67	
'51 Series from Houma (frozen seed)	2627	3179								
'51 Series from Canal Point	22	22								
'52 Series from Houma	1576	1810								
'52 L Crosses from Grand Isle	13310	14699								
Totals	55557	19710		130	195	613	91	1029	303	47
Parent & Foreign Varieties:										
Miscellaneous Importations	29	25	24				0	1		
U. S. Varieties (breeding canes)	4									
Florida Nos.	62	11	46							
C. P. Varieties:										
'50 Series	24		9				4	25		
'51 Series	33		4				2	32		
'52 Series	88	88	64							
'53 Series			35							
Grand Totals	55797	19834	182	130	195	613	97	1087	303	47

[1] 30 assigned C. P. '52 Nos. last year. [2] 10 assigned C. P. '52 Nos. last year.

the research greenhouse, 50 feet long by 30 feet wide, has been contracted for, so that by the fall of 1954 greenhouse space at the Houma station will be approximately three times as great as that formerly available.

Teche Test

Since 1949 the Houma Station has been cooperating with the Louisiana Agricultural Experiment Station in an experiment to determine whether certain varieties may have special adaptability to the Teche area. It is well known that some varieties mature better in that area, and it seemed possible that seedlings grown only at Baton Rouge or Houma in the early stages might be discarded because of sub-standard sucrose. Since the establishment of the test plot on Katy Plantation near Franklin, 434 varieties have been introduced there, most of them selected from the single stool nurseries at Baton Rouge and Houma. For the most part, those selected were of good type, with stalk size about equal to or larger than that of Co. 290, and many of them of relatively low Brix. Although 20 C. P. numbers have been assigned from the above total, in all cases this was based on their record at Baton Rouge or Houma. So far no seedlings has been selected for a C. P. number solely because of superior performance in the Teche test.

DISEASE TESTING

E. V. Abbott, C. A. Schexnayder and R. L. Tippett

Mosaic. Mosaic inoculations were performed in 1953 on the potted seedlings grown in the greenhouse from true seed received from the breeders, and in the field on imported varieties and those receiving C. P. numbers of the '53 series. A summary of this work is in table 1.

Of the 19,703 seedlings of the '52 breeding season inoculated with mosaic in the greenhouse, 9.6 percent became infected and were eliminated before transplanting to the field. An additional 3.4 percent developed mosaic after transplanting.

Not shown in the table is the

inoculation in 1954 of the seedlings grown from true seed produced in the 1953 breeding season. Of the 41,063 potted seedlings (individual pots) of this series inoculated, 9.7 percent became infected and were discarded before field transplanting.

Red Rot. Tests for red rot resistance were made on 182 varieties, as shown in table 1.

Imported Varieties

Twenty-seven foreign importations, all from the Barbados sugarcane breeding station, were grown in the field at Houma and tested for disease resistance. While the primary purpose of introducing them was to determine their potential value as breeding canes, they were also observed for possible commercial adaptability in Louisiana. None showed commercial promise.

Fifty-six imported varieties from Hawaii, Coimbatore, Queensland and Java were received at Houma in the fall of 1953 and are now growing here as plant cane.

RECAPITULATION OF FINAL MANUFACTURING REPORTS OF FLORIDA SUGARCANE FACTORIES, CROP 1953 54

	State 3 Factories
Crop days, average	147
Lost time, % total time	12.04
Tons cane ground	1,453,056
% total cane ground	100.00
Tons ground per hour	156.46
Extraction, N J % cane	77.52
Sucrose extraction, %	91.44
Maceration, % cane	20.57
Fiber, % cane	12.09
Java ratio	80.89
Analyses:	
Crusher juice Brix	17.75
Crusher juice Sucrose	15.09
Brix factor	97.35
Sucrose factor	95.43
Normal juice Brix	17.28
Normal juice Sucrose	14.40
Normal juice Purity	83.33
Factory syrup Brix	61.18
Residual juice Brix	8.61
Bagasse, % sucrose	3.89
Bagasse, % moisture	49.85
Bagasse, % fiber	44.98
Press cake, % sucrose	4.15
Sucrose Balance:	
B/S Mols., Suc. in, % cane	.966
Press cake, Suc. in, % cane	.174
Undetermined, Suc. in, % cane	.201
Bagasse, Suc. in, % cane	1.045
Total losses, Suc. in, % cane	2.386
Sugar, Suc. in, % cane	9.820
Cane, total sucrose in, % cane	12.206
Lbs 96° sugar M. & E., T/Cane	204 58
Gallons B/S Mols., 80° Brix, T/C	6.246
Boiling house efficiency	95.64

Prepared May 21, 1954 by W. M. Grayson, Sugar Marketing Specialist (Programs) Louisiana ASC Office.

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SUGAR YIELDS, SUGAR RECOVERIES, AND THE FUTURE OF OUR LOUISIANA INDUSTRY

By L. F. Martin, W. F. Guilbeau, and John G. Lipps, Jr., Southern Regional Research Laboratory[1], New Orleans, Louisiana.

Prosperity of the grower depends no less than that of the processor upon the maximum amount of the sugar produced in the field that can be recovered by the factories and put in the bag. This obvious fact will not be questioned except in abnormal periods when molasses prices are high. For purposes of this discussion the yield is defined as the total amount of sugar produced in the field, that is, the total pounds of equivalent 96° sugar contained in a ton of cane delivered to the factory. The recovery is the portion of that total sugar obtained for marketing as 96° raw sugar. It is vitally important that both grower and processor should be aware of the steadily increasing difference between yields and recoveries of sugar, and that both should do everything possible to reverse the present alarming trend. The hard, statistical facts of this problem have been presented before, but until the trend is reversed we must keep informed of the situation from year to year. The facts will bear frequent repetition and up-to-date figures are of interest at the present time.

A thorough discussion of the causes of declining sugar recoveries in Louisiana from the time that they became generally significant in 1944 and 1945, through the crop year 1947, was published by Keller and Seip as Louisiana State University Engineering Experiment Station Bulletin, Series No. 14, issued in 1948. The Sugar Bulletin for June 15, 1948 carried a comprehensive article by Arceneaux covering a 10-year period during which it was shown that, while there had been a slight downward trend in tonnage yields per acre, there had been no significant decrease in pounds of sugar available per ton of cane. In view of the fact that, in 1947, the state average recovery in the factories was only 154 pounds per ton of net cane instead of a predicted recovery of 172 pounds, Keller and Seip examined all possible factors contributing to this loss of sugar with the conclusion that it resulted primarily from mechanization of cane harvesting operations. This study and its conclusions should be reviewed at the present time with the improvements that have been effected in mechanical harvesting practices in mind.

None of the trends noted by Arceneaux and by Keller and Seip has changed during the 5 years since their studies were published. There has been no significant increase or decrease in the pounds of sugar available per ton of cane, yet the recoveries of 96° raw sugar per ton of cane have continued generally downward. This is established readily by calculations that can be made from the recapitulation of final reports of all of the Louisiana factories compiled by W. M. Grayson, of the Agricultural Marketing Service, and published annually in the Sugar Bulletin (1). Results of such calculations are presented in the accompanying graphs, which show in Figure 1 the sugar available and recovered in pounds per ton of cane, and the percentage recovery. Figure 2 presents the distribution of sugar losses insofar as they can be accounted for by the recapitulated factory data.

In Figure 1 it will be seen from the top line, that during the 14 years 1939-1952, the amount of 96° sugar in each ton of cane has varied above and below the average for the entire period in such a way that there is no consistent tendency either to increase or decrease. This is true even if the low figure resulting from the disastrous freezes of 1951

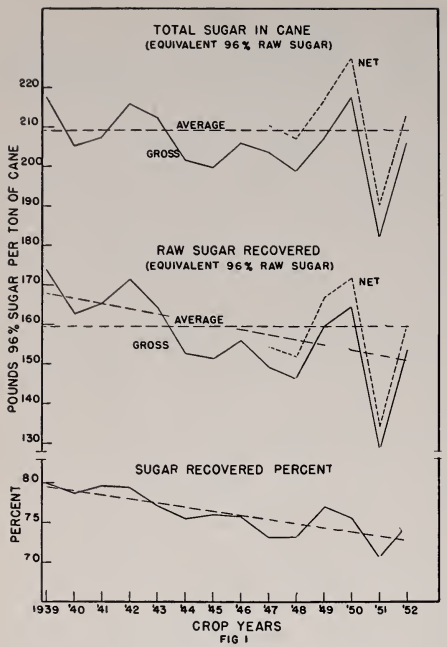

FIG 1

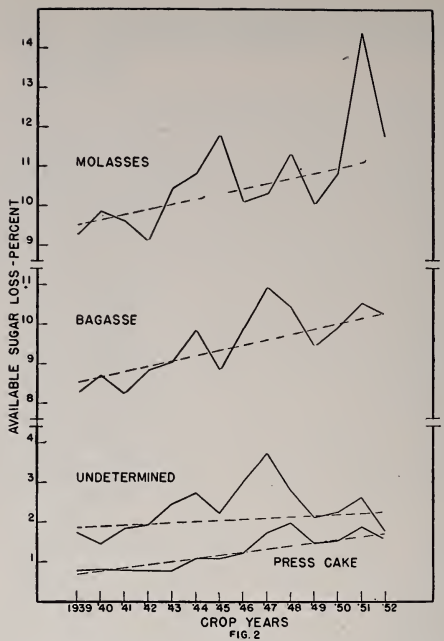

FIG. 2

is not included, as it is offset to a great extent by the unusually high sugar content of the 1950 cane crop. The middle line shows the unmistakable declining trend in the pounds of 96° sugar per ton recovered from this cane, indicated by the dashed line for comparison with the line showing the average for the entire period. The dotted lines show the quantities of sugar based upon net cane for the years in which data were available on this basis. The trend shown for actual sugar recovery is based upon the net cane values. The bottom line is most significant, as the percentage of the available sugar recovered is not affected by the change from gross to net cane as a basis, and is less dependent upon variations in the amount of sugar available. There is no indication that the trend in this percentage value is not continuing downward from the 80% recovery of 1939 toward recoveries of 70% or less that must be expected within the next few years.

The sugar that is not recovered is being lost in increasing amounts in molasses, in bagasse, and in press cake, as is shown by Figure 2. All three of these byproducts and waste materials show definitely increasing trends in the percentage of the available sugar which they contain. Only the undetermined loss expressed as a percentage of available sugar is found to have a very slight, if significant, increasing trend. The extremely high values for 1946-48 have been attributed to widespread difficulty in clarification resulting in excessive losses by "ditching," which probably account for the apparent small upward trend in the undetermined loss. While the smallest loss occurs in the press cake, it has shown the greatest relative increase, being consistently twice as large since 1946 as it had been during the period 1939-1943. The large increase in the quantity of press cake and sugar lost therein is evidence that difficulty in clarification is an important factor contributing to poor recoveries, but it is not the only factor as increasing amounts of the available sugar are being lost to bagasse and molasses.

If the present trend should continue we can expect that only 70% of the available sugar will be recov-

ered in 1956, rather than 80%, which was recovered in 1939. This will be 20 pounds less sugar than the 164 pounds per ton that would be expected from cane of the average sugar content produced during the past fourteen years. Allowing for any reasonable credit from increased yields of molasses, the minimum financial loss will not be less than $1 per ton of cane, or $5,000,000 on an average annual crop in Louisiana. Declining recoveries will make it necessary to lower the values progressively for the theoretically available sugar upon which the price of cane is based. This will eventually lead to the necessity of revising the factors applicable to the purchase price of cane in some equitable manner if the factories are to realize a profit and be able to continue in operation.

So many factors are involved in this problem that a concerted effort will be required on the part of all concerned in order to find solutions and reverse the trend which is bringing the industry perilously close to marginal profits and actual financial loss. One line of work with the objective of remedying the situation is the evaluation of new varieties on a pilot plant scale to ensure the introduction of only such new canes as are known to have good milling, clarification, and processing characteristics, at least when they are delivered to the factories in reasonably clean and fresh condition. A summary of results that have been obtained in the study of the clarification of eligible new cane varieties in the pilot plant at the Audubon Factory will be published in a forthcoming issue of the Sugar Bulletin.

---

[1] One of the laboratories of the Southern Utilization Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

References

(1) Grayson, W. M. The Sugar Bulletin **31**, 22, p. 353 (Aug. 15, 1953).

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INCREASE YIELDS ON **HEAVY SOILS** BY USING CHLORDANE

By Lloyd L. Lauden

It is the recommendation of the U.S.D.A. Sugar Station and the Louisiana State Agricultural Experiment Station that each cane grower apply chlordane in the open planting furrow on at least part of the cane which is planted on heavy soils. Chlordane treatment of heavy soil at planting time has given increases in yield in 28 out of 30 experiments conducted by L. S. U. and the U.S. D.A. over the past six years. *The treatment is not recommended for the lighter sandy soils.*

The experiments which led to the recommendation of chlordane were conducted by A. L. Dugas and E. J. Cancienne, Louisiana Agricultural Experiment Station, and Ralph Mathes, J. W. Ingram, W. E. Haley, and L. J. Charpentier, U.S.D.A., Agricultural Research Service.

The chlordane treatment gives an increase in the plant cane crop and the first stubble crop. A cash return from this treatment several times greater than the relatively small cost involved can reasonably be expected.

Apply the chlordane as either a dust or a spray. The important thing is to get a uniform application of 2 pounds of *technical* Chlordane for each acre, applied on the cane seed pieces as they lie in the open furrow shortly before covering with soil. If dust is used, apply a 100 pound application of a 2 per cent dust with a fertilizer distributor. If a spray application is selected, use the emulsion concentrate form because it readily mixes with water and it may be used in a spray tank without an agitator, and does not plug up the nozzles. Although the emulsion concentrate contains a petroleum distilate solvent it has not caused any apparent injury to the cane. However, the amount of solvent per acre can be reduced by buying the kind that contains the most pounds of chlordane per gallon.

Paper and pencil figuring will be required to be sure of the right amount of chlordane needed. The emulsion concentrate usually has anywhere from 4 to 8 pounds of technical chlordane per gallon. The number of gallons of the emulsion concentrate to be added to a tank of water depends on (1) the number of pounds of technical chlordane in each gallon of concentrate, (2) the number of gallons of water in the spray tank, and (3) the number of gallons that the sprayer puts out per acre. For 2 pounds of chlordane per acre 5 gallons of concentrate containing 4 pounds per gallon or a total of 20 pounds would be needed for 300 gallon tanks that spray 30 gallons of water per acre or enough to spray 10 acres. Any sprayer that puts out 10 or more gallons per acre is satisfactory. The number of nozzles per row or fineness of the spray does not appear to be important. However, the nozzles should be set so that they lay down a band of spray wide enough to cover all of the seed pieces lying in the open planting furrow. A spray band 12 to 16 inches wide is usually adequate. The open planting furrow should be covered as soon as possible after spraying.

The chlordane treatment controls soil insects and small soil animals which feed on cane roots and leave wounds for root-rotting organisms to enter.

GROWER'S INCOME, DOLLARS, THE TON OF SUGAR CANE DELIVERED TO LOUISIANA SUGAR MILLS, 1937-1953

Year	Paid By Mills		Conditional Payments, Sugar Acts of 1937 and 1948					
	Acc. Cane	Molasses Bonus	Acc. Recoverable Sugar	Abandonment Payment	Deficiency Payment	Total Conditional Payment	Support or CCC Payment	Total Amount Received
1937	2.907	----	.892	.023	.016	.931	----	3.838
1938	2.663	----	.948	----	----	.948	----	3.611
1939	2.881	----	.976	----	----	.976	----	3.857
1940	2.717	----	.908	.013	.258	1.179	----	3.896
1941	3.679	.256	.924	.005	.084	1.013	----	4.948
1942	4.033	.319	1.240	.001	.084	1.325	----	5.677
1943	3.936	.323	1.213	.008	.023	1.244	.341	5.844
1944	3.837	.313	1.165	.048	.004	1.217	.826	6.193
1945	3.762	.320	1.158	.008	.002	1.169	1.496	6.747
1946	6.222	.322	1.235	.041	.001	1.277	----	7.821
1947	6.634	.609	1.250	.001	.136	1.387	----	8.630
1948	5.821	.058	1.180	.001	.035	1.216	----	7.095
1949	6.199	----	1.204	.001	.030	1.235	----	7.434
1950	7.146	.738	1.287	----	.003	1.290	----	9.174
1951	5.149	.723	1.046	.039	.120	1.205	----	7.077
1952	6.542	.097	1.175	----	.001	1.176	----	7.815
1953	6.963	.141	1.263	.001	----	1.264	----	8.368

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Other Bonds and Securities	625,121.94	Reserve for Taxes, Accrued Interest and Expenses		1,759,727.50
Loans and Discounts	117,255,392.31	Other Liabilities		54,810.13
Bank Premises	3,493,360.64	Capital Stock	$ 2,800,000.00	
Other Real Estate	10,471.75	Surplus	17,200,000.00	
Customers' Liability Account of Acceptances	1,430,188.73	Undivided Profits	5,259,959.89	
				25,259,959.89
Accrued Income and Other Assets	1,977,575.31			
TOTAL	$ 398,704,326.55	TOTAL		$ 398,704,326.55

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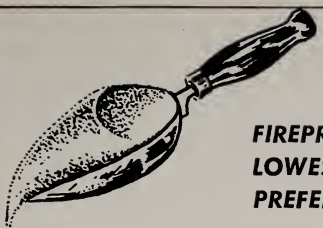

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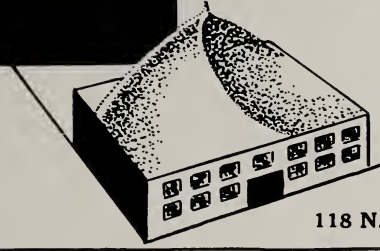

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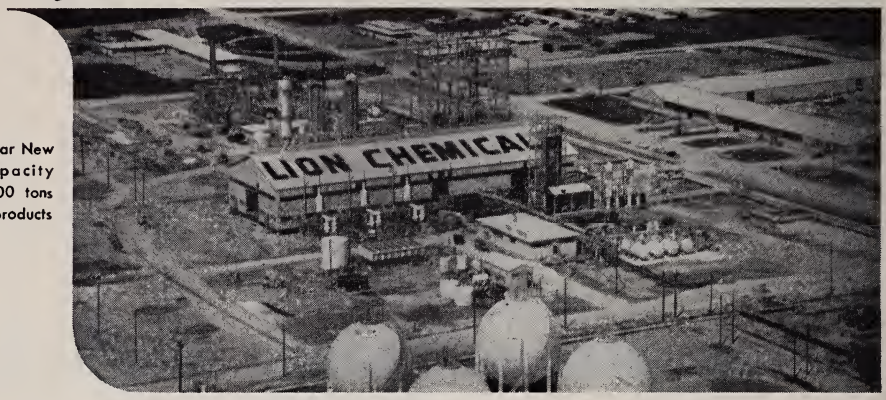

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Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

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Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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THE SUGAR BULLETIN

UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

Mule Breakers

In reviewing the way our sugar market character "The Old Mule" has been knocked around this summer, we are reminded of a story about a farmer who had a mule that wouldn't submit to civilization. Try as he would the farmer just couldn't break this mule, so he decided to call in his neighbor, a man who had the reputation of being the best mule breaker in the country.

This guy (the mule breaker) walks into the yard, picks up a two by four, and whams the mule across the head, knocking him flat. The mule gets up and he bats him over the head again. This time the mule has to struggle to get on its feet, but the mule breaker lets him have it again, and down he goes for the third time.

By now the man who owns the mule is getting a little worried because this method seems to be just a bit drastic even for an uncivilized mule, so he asks the mule breaker why he keeps knocking the mule over the head with the two by four? "Well," says the mule breaker, "the first thing we gotta do is get that mule's attention."

There's a nasty r u m o r going around that this same mule breaker is now in Washington and a lot of folks are wondering if he's the man who is driving our poor "Old Mule". We hardly believe they would hire a brute like that, but the way our critter is knocked flat every time he gets started makes it look mighty suspicious. The breaking technique is definitely the same but this, of course, could be a mere coincidence.

The Wage-Price Hearing

The Wage-Price Hearing was held according to plan in Thibodaux on July 28th with A. L. Greenwood, J. M. Bailey, and W. M. Grayson in charge for the Sugar Branch.

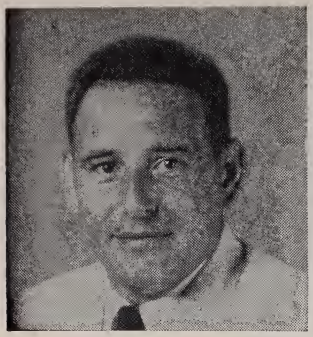
The "Price" part of the Hearing consisted mostly of a prepared statement by Ed. Schexnaydre, a cane farmer from Bayou Goula, La., on behalf of the Grower - Processor Committee.

Mr. S c h e x n a y d r e stated the Grower - Processor Committee had decided to r e c o m m e n d that no changes be made in the Fair Price Determination this year. R. J. Baudeaux, of the Farm Bureau asked him some questions, and P. L. Billeaud, of Broussard, La., testifying in his own behalf as a processor, called attention to the increased freight rates now in effect on sugar and suggested that this be taken into consideration in the Fair Price Determination.

The "Labor" part of the Hearing consumed most of the day. All of the testimony was on a higher plane than usual with Ernesto Galarza, of Washington, D. C., representing the National Agricultural Workers Union, of A. F. of L., and Charles Fisher the Packing House Workers Union of C. I. O.

The usual "New Orleans Delegation" failed to put in its appearance and, for the first time in years, the only "static" at the meeting was caused by a faulty public address system.

(Continued on page 390)



IN THE FIELD WITH LLOYD LAUDEN

Fall Planting

It is to be remembered that the stand of plant cane in the spring from fall planted cane is dependent upon a number of factors. Some of these factors are controllable, others decided by the weather.

Those factors which are controllable should be carefully considered since the quality of work done in the fall can materially affect the stand in the spring and to a degree lessen the effect of adverse weather conditions.

Of major importance is the quality of seed planted. Since common usage of the term one acre planted either 5, 6, 7, 8, etc. acres has become something that one could boast of, the writer wonders if this factor alone could be influencing high topping. Seed topped too highly can only cause the *planting* of *gaps*. If this seed is examined carefully, many pieces will be observed to contain as much as 18 inches of length which contain nothing but the leaf roll completely void of cane.

Another factor which has become part of the operation of planting is speed. The race to be finished planting is another thing that has become something about which to boast. The old proverb "Haste makes waste" certainly applies to the planting of cane. Remember a planted *gap* remains a gap for not only one crop but shows its effects in the stubble crops to come.

In general the seed bed in the sugar cane belt is well pulverized and is in excellent physical condition to receive the seed. However, occasionally seed is planted to a seed bed that has been too recently made and completely dried out from either plowing deeply or reversing the rows too soon before planting. It is not to be inferred that either deep plowing or reversing the rows has an ill effect, but merely to point out that land should be allowed to firm to some degree after preparation in order to insure moisture.

Of some importance, particularly during a dry fall, is the opening for planting of only that number of rows which can be planted during that planting day. This will conserve moisture.

Rolling or cultipacking after planting will many times make the difference between a good or a poor stand particularly when moisture is somewhat limited at planting time. This operation packs the soil firmly around the seed and assists in preventing dry rot.

If Johnson grass is a problem it is well to remember the recommendation of Mr. Ernest Stamper, Johnson grass control expert, Louisiana State University. Below is Mr. Stamper's recommendation for the fall treatment:

Fall Treatment: (For cane planted August 1 to October 15).

1. The surface of soil should be made firm by rolling or cultipacking immediately after planting and covering the cane.

2. Apply a spray of 1 lb. acid equivalent of the amine salt of

(Continued on page 395)

IN WASHINGTON WITH JOE FERRIS

Victory or Defeat?

Congressional adoption of so-called flexible price supports for certain agricultural crops is hailed by various administration supporters as an outstanding victory.

But other equally staunch Republicans from the farm belt say the victory in reality is defeat because it will result in the administration losing control of Congress after the elections this Fall.

As predicted here weeks ago, the fight was bitter but not to the extent some political observers expected. The filibuster on the Atomic Energy bill just prior to consideration of the Farm bill (S. 3052) used up so much energy and oratorical ardor that neither the proponents nor the opponents of flexible price props could generate sufficient enthusiasm for full-scale Senate floor warfare.

1955 Marketing Allotment Hearing

In response to suggestions from Louisiana and Florida processors, the sugar Division has tentatively agreed to hold the 1954 marketing allotment hearing in New Orleans the latter part of January or in early February, on a definite date to be announced later.

This date is contingent, however, on all processors signing stipulations similar to those agreed to last year, providing for the issuance of a tentative marketing allotment of perhaps 90% of the 1954 allotment.

Prior to that time, reliable production statistics will be available so that the Sugar Division can make its customary proposal in advance of the hearing.

No Hike In Florida Wage Rates

The U. S. Department of Agriculture has announced that wage rates for Florida sugarcane workers in effect for the 1953-54 period will be continued unchanged for the 1954-55 production, cultivating and harvesting seasons.

In Florida all but a very few sugarcane workers are employed on a piece-work basis, and in accordance with the Secretary's determination, the average earnings of individual workers during each pay period must average not less than the hourly rates.

Myers To Hold Sugar Conference

In a letter to cane sugar refiners and Washington representatives of the domestic sugar areas, Sugar Division Director Lawrence Myers outlined a meeting to be held in Washington September 15th to discuss a number of problems which have arisen recently in the administration of the Sugar Act.

Number 1 on the agenda is liquid sugar, one of the most recently active problems in connection with the proper quota assignment from offshore domestic areas. This question actually is not a new one—it was raised as long ago as 1940. The Sugar Division at that time stated that the same principle which applied to crystalline sugar would apply to liquid sugar, namely, liquid sugar to be further refined would be assigned to the over-all quota (raw quota) and if not to be fur-

(Continued on page 394)

FARM ALLOTMENTS ANNOUNCED FOR 1955 MAINLAND SUGARCANE CROP

The U. S. Department of Agriculture announced August 26 the determination or restrictive proportionate shares (farm acreage allotments) for sugarcane farms in the mainland cane sugar area (Louisiana and Florida) for the 1955 crop. Marketing within such shares is one of the conditions which must be met by producers in qualifying for payment under the Sugar Act.

On the basis of current estimates of 1954 production and marketings, a 1955 crop approximating the area's statutory quota of 500,000 tons of sugar will meet quota and carryover requirements. The determination establishes proportionate shares totaling approximately 294,000 acres. This acreage compares with the average acreage of 340,200 for the five-year period 1949-1953 and 315,000 acres estimated for 1954.

The determination conforms generally with the proposal, presented by the Department at an informal hearing in New Orleans on July 8, 1954, to establish individual farm shares substantially by the same methods provided for the 1954 crop. Farm bases will be established from the same base period (crops of 1949 through 1953) and with the same weightings for "past production" and "ability to produce", the standards specified in the act.

The essential differences between the 1955-crop determination and the 1954-crop determination are as follows: (1) The adjustment factor to be applied to most farm bases is 82 percent, as compared to 90 percent; (2) the minimum share for farms with bases is 73 percent of the 1953 acreage, as compared to 80 percent, and (3) the proportionate share for new farms is 5 acres, as compared to 10 acres. The share for any farm on which there was 1954-crop acreage, but no acreage during the base period, is the smaller of 10 acres or the 1954 acreage, but not less than 5 acres.

County Agricultural Stabilization and Conservation Committees of the Commodity Stabilization Service have been delegated the responsibility for establishing farm proportionate shares in accordance with the determination.

The official determination of proportionate shares follows:

TITLE 7—AGRICULTURE

CHAPTER VIII—Commodity Stabilization Service (Sugar) Department of Agriculture

Subchapter G—Determination of Proportionate Shares

(Sugar Determination 855.2)

PART 855—MAINLAND CANE SUGAR AREA

1955 CROP

Pursuant to the provisions of section 302 of the Sugar Act of 1948, as amended (herein referred to as "act"), the following determination is hereby issued:

§ 855.2 *Proportionate Shares for Sugarcane Farms in the Mainland Cane Sugar Area for the 1955 Crop. (a) Farm Proportionate Share.* A 1955 crop proportionate share for each sugarcane farm in the Mainland Cane Sugar Area shall be established in terms of acres (acreage or acres as used herein means the area of sugarcane grown for the production of sugar or liquid sugar and for seed, and the area of sugarcane abandoned and classified as bona fide abandonment under procedure issued by the Commodity Stabilization Service) as follows:

(1) *Farms with Bases.* The proportionate share for any farm for which a farm base is established under subparagraph (4) of this paragraph shall be the largest of (i) 10 acres; (ii) the 1953 acreage, but not in excess of 25.0 acres; (iii)

FULL 1954 ALLOTMENTS FOR MAINLAND CANE SUGAR AREA

(Official Release)

The U. S. Department of Agriculture announced on August 13th a revision of allotments to processors of the 1954 sugar quota for the mainland cane sugar area which permits marketing of the full allotments. The revision is based on final data on production of sugar from 1953-crop cane and marketings of sugar during the calendar year 1953. The revised allotments are established on the same basis as those in Sugar Regulation 814.21, Amendment 1.

Since final 1953-crop production and 1953 marketing data were not previously available, marketings by processors in 1954 have been restricted to 85 percent of their allotments in order to avoid marketings in excess of the allotments announced today.

The revised allotments, which will be effective when Sugar Regulation 814.21, Amendment 2, is published in the Federal Register (Aug. 18, 1954) are shown in the following table:

	Allotments (short tons, raw value)
Albania Sugar Coop., Inc.	5,023
Alice C. Ref. & Plntg., Inc.	5,795
Alma Plantation, Ltd.	5,636
J. Aron & Company, Inc.	10,916
Billeaud Sugar Factory	7,006
Breaux Bridge Sugar Coop., Inc.	4,782
Burton-Sutton Oil Co., Inc.	7,866
Caire & Graugnard	2,841
Caldwell Sugar Coop., Inc.	9,642
Catherine Sugar Co., Inc.	5,481
Columbia Sugar Company	4,582
Cora-Texas Mfg. Company, Inc.	1,835
Cypremort Sugar Company, Inc.	4,120
Dugas & LeBlanc, Ltd.	9,911
Duhe & Bourgeois Sugar Co., Inc.	6,321
Erath Sugar Company, Ltd.	4,119
Evan Hall Sugar Coop., Inc.	15,690
Evangeline Pepper & Food Prod., Inc.	3,722
Fellsmere Sugar Producers Assn.	8,582
Frisco Cane Company, Inc.	661
Glenwood Coop., Inc.	8,706
Godchaux Sugars, Inc.	30,239
Helvetia Sugar Coop., Inc.	5,450
Iberia Sugar Coop., Inc.	11,102
LaFourche Sugar Company	12,647
Harry Laws & Company, Inc.	7,818
Levert-St. John, Inc.	7,381
Loisel Sugar Company, Inc.	4,805
Louisiana State Penitentiary	2,237
Lula Factory, Inc.	9,900
Meeker Sugar Coop., Inc.	2,934
Milliken & Farwell, Inc.	10,191
Okeelanta Sugar Refinery, Inc.	13,305
M. A. Patout & Son, Ltd.	7,350
Poplar Grove Pltg. & Ref. Co., Inc.	4,720
E. G. Robichaux Company, Ltd.	3,839
St. James Sugar Coop., Inc.	9,349
St. Mary Sugar Coop., Inc.	9,378
Slack Bros., Inc.	2,801
Smedes Bros., Inc.	3,731
South Coast Corp.	32,384
Southdown Sugars, Inc.	41,232
Sterling Sugars, Inc.	6,145
J. Supple's Sons Pltg. Co., Inc.	3,087
United States Sugar Corp.	97,634
Valentine Sugars, Inc.	8,326
Vermilion Sugar Co., Inc.	2,151
Vida Sugars, Inc.	3,666
A. Wilbert's Sons Lbr. & Sh. Co.	7,118
Young's Industries, Inc.	5,718
Louisiana State University	125
All other persons	000
Total	500,000

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the base, but not in excess of 25.0 acres; (iv) 73.0 percent of the 1953 acreage; and (v) 82.0 percent of such base.

(2) *Farms Having Production in 1954-Crop Year Only.* The proportionate share for any farm on which there was 1954-crop acreage but no acreage during the base period shall be the smaller of such 1954-crop acreage and 10 acres, but not less than 5.0 acres.

(3) *New Farms.* The proportionate share for any farm without a farm base and on which there was no acreage during the 1954-crop year, shall be 5.0 acres.

(Continued on page 393)

THE LOUISIANA SUGARCANE VARIETY CENSUS FOR 1954

By Leo P. Hebert, Research Agronomist, Field Crops Research Branch, Agricultural Research Service, United States Department of Agriculture [1]

Results of a variety survey just completed with the assistance of the county agents in 18 of the parishes of the Louisiana Sugar District are briefly summarized in this report. As in previous years, the agents rendered valuable assistance by reporting the percent of the acreage in each of 11 commercial varieties in their respective parishes. Table 1 summarizes the results of the survey in each of the generally recognized areas of the sugar district (Northeastern, Southeastern and Southwestern) and for the State as a whole. Cane acreages in the 18 parishes constitute 99.08 percent of the total sugarcane acreage in the State grown for sugar.

C.P. 44/101 is now the leading variety in the State in percent of the planted acreage. Its outstanding performance in yield trials,[2] its general adaptability on the different soil types of the sugar district,[3] and its ability to start growing early in the spring, appeal to the growers.

Although this variety is susceptible to the stunting disease [4] and to borer damage,[5] it has consistently outyielded all commercial varieties in comparable variety tests. It has been increasing rapidly since its release for general culture in 1949 and, except for 1954, the acreage devoted to this variety has doubled each year.

C. P. 36/105, now in second place, dropped more than 6 percent in the last year but is still the leading variety in the northern and southwestern areas. Like C. P. 44/101, it is adapted to all soil types [3] but its yields in variety tests have been consistently below yields of C. P. 44/101. These two varieties occupy more than 62 percent of the State acreage at the present time.

In third place is C. P. 44/155, which increased approximately 2.5 percent since the 1953 census. The increase has been equally distributed in all three areas. Its tendency to lodge will no doubt limit its utilization by the industry but it is relatively high in sugar content and should find a place on the better soils.

C. P. 36/13 is in fourth place, having lost 1.34 percent in a year. Like C. P. 44/155, it is relatively

Table 1. Percent distribution of sugarcane acreage according to variety in the 3 principal areas of the Louisiana Sugar District.

A. 1954 Crop

Area	VARIETY											Other varieties	Percent of State[1] acreage
	C.P. 44–101	C.P. 36–10[r]	C.P. 44–155	C.P. 36–13	C.P. 29–11[e]	Co. 290	C.P. 43–47	C P. 34–120	C.P. 29–320	C.P. 44–154	C.P. 36–183		
Southeastern[2]	37.60	32.30	13.09	5.12	0.42	0.1[5]	3.55	4.05	0.44	1.39	0.42	1.47	47.61
Southwestern[3]	24.73	26.09	6.18	8.36	13.22	10.53	4.06	0.20	0.60	1.60	2.07	2.36	35.17
Northern[4]	29.19	37.91	9.09	4.69	*	*	1.62	7.94	7.95	0.34	0.01	1.26	16.30
18 Parishes	31.35	30.73	9.89	6.14	4.85	3.77	3.39	3.30	1.72	1.27	0.93	1.74	99.08

B. Varietal increase (+) or decrease (—) in percent of surveyed acreage.

Period	C.P. 44-101	C.P. 44-155	C.P. 43-47	C.P. 44-154	C.P. 36-183	C.P. 29-320	C.P. 36-13	Co. 290	C.P. 29-116	C.P. 34-120	C.P. 36-105
1953-54	+11.05	+2.46	+1.40	+0.79	+0.05	—0.22	—1.34	—2.10	—2.11	—2.21	—6.04
1951-54	+26.08	+5.91	-------	+3.39	—0.30	—2.58	—0.23	—5.66	—3.68	—16.27	—1.76

* Less than 0.1%.

[1] Anon. Cropland-Proportionate share-Planted acres of Louisiana sugarcane farms participating in the sugar program by parishes. Sug. Bul. 30(22:) 340. August 15, 1952.

[2] Ascension, Assumption, Lafourche, St. Charles, St. James, St. John and Terrebonne.

[3] Iberia, Lafayette, St. Landry, St. Martin, St. Mary and Vermilion.

[4] Avoyelles, Iberville, Pointe Coupee, West Baton Rouge and Rapides.

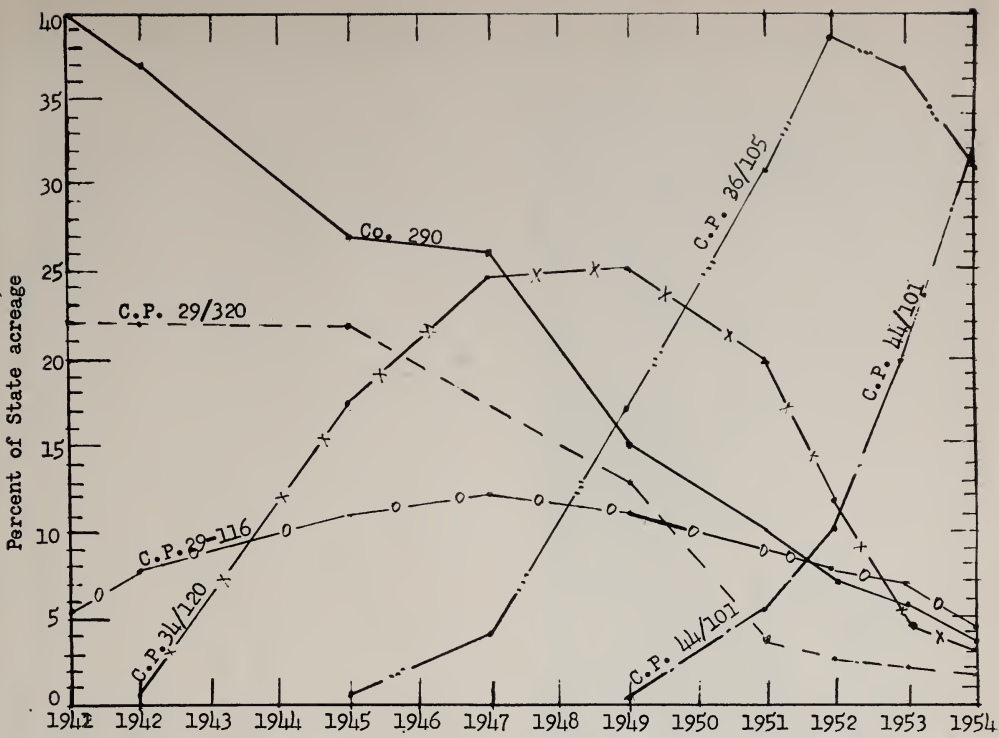

Fig. 1. Changes in the distribution of Louisiana sugarcane acreage among important varieties during the period 1941-54, inclusive.

high in sucrose but is not generally adapted to all the soil types. It should be planted on the better drained light soils only.

C. P. 29/116, with 4.85 percent of the State acreage, is now in fifth place. It leads Co. 290, which is in sixth place with 3.77 percent of the acreage, by approximately one percent in the State, and by nearly 3 percent in the western area where practically all the plantings of those two varieties are found.

C. P. 43/47 and C. P. 44/154, the two most recent commercial releases, are increasing slightly in percent of planted acreage but it is doubtful that either will ever be generally grown in Louisiana. C. P. 43/47, although relatively high in sugar content, is not adapted to a wide range of soil types and C. P. 44/154 is considered too low in sucrose to be of commercial importance; however, its high yielding ability and good shading qualities appeal to the growers, especially in the western area where most of it is grown at the present time. In that area all varieties mature earlier as a rule and there is no doubt that this variety will continue to increase in acreage there in spite of the fact that it can be expected to yield less sugar per ton of cane than Co. 290.

C. P. 34/120 and C. P. 29/320 are presently grown on a very small percentage of the State acreage. Both varieties are dependable for their high sucrose qualities and, probably for that reason, most of the acreage devoted to these two varieties is confined to the northern area where low sucrose sugarcanes like Co. 290 and C. P. 29/116 never were widely adapted.

C. P. 36/183 is grown on less than one percent of the State acreage. It is most widely grown in the far western area where it is

(Continued on page 393)

CLAUDE BERNARD GOUAUX RETIRES

By I. L. Forbes, Assistant Director, Louisiana Agricultural Experiment Station

On July 1, 1954, Mr. C. B. Gouaux, Agronomist with the Louisiana Agricultural Experiment Station, ended a long and faithful career by voluntary retirement, as Agronomist Emeritus.

Born on March 23, 1892, at Napoleonville, Louisiana, C. B. Gouaux was educated in Louisiana. He received the B.S. Degree in Agriculture from Louisiana State University in 1913, having been a Student Assistant in the Department of Chemistry from 1911 to 1913.

The following is a brief summary of Mr. Gouaux's early professional experience: Agriculturist for Guanica Central, Ensenada, Puerto Rico; Superintendent of Cultivation, Haitian - American Sugar Company, Port au Prince, Haiti; Agriculturist, Pennsylvania Sugar Company, Miami, Florida; County Agent, Assumption and St. Mary Parishes, Louisiana; Agriculturist, Tropical Plant Research Foundation, and Warner Sugar Corporation in Cuba; Louisiana Agricultural Extension Sugarcane Specialist (1919-1922).

From 1926 to 1954, or for a total of twenty-eight consecutive years, Mr. Gouaux was an Agronomist with the Louisiana Agricultural Experiment Station, in charge of outfield experimental work with sugarcane varieties. His work covered the entire period of development of new varieties including the P.O.J. canes; the Indian varieties, Co. 281 and Co. 290; and all the C. P. varieties to date. Together with Director Emeritus Taggart, who also retired July 1, Mr. Gouaux was among the most outstanding of that small handful of persevering scientists, State and Federally employed, who were responsible for developing varieties which brought the Industry in Louisiana from complete failure and bankruptcy to full stature within a relatively short period of time.

To all who have had the privilege of knowing C. B. Gouaux intimately, he stands out as an Institution within himself. Slow and careful of speech, industrious yet meticulously careful in action, religiously honest and of deep integrity, Mr. Gouaux earned the reputation as a man whose word is truly his bond.

Over the long span of 28 years with the Louisiana Experiment Station, Mr. Gouaux not only did an outstanding job with the sugarcane test fields but in addition he served of his own free will as teacher, advisor, and trusted friend of sugarcane planters throughout the entire "cane belt". His advice was sought on what varieties to plant on different soil types and in different areas; on how, with what, and when to fertilize cane; and on many other agricultural practices. When Gouaux spoke, farmers took note.

Now that Mr. Gouaux has retired, we feel sure that the entire Sugar Industry joins with his professional colleagues in saying, "Well done, good and faithful servant. May your health remain good; may your memories of service be fond ones, and may our memories of you inspire us to greater and nobler service to our fellowman. We shall still be seeking your advice."

———o———

UP FRONT

(Continued from page 383)

Messrs. Greenwood, Bailey and Grayson did the usual excellent job in conducting the Hearing.

Acreage Allotments

The Department of Agriculture has officially announced that the acreage of cane in the Mainland Cane Area will be cut to 294,000 acres. This is 6.7 per cent less than the 1954 acreage.

If the Congress increases the Mainland Cane Area quota effective in 1955, it is reasonable to assume

that the Department of Agriculture will increase proportionate acreage shares.

Right now it is, of course, impossible to predict with certainty just what the Department would actually do in the event of a quota increase but, in view of the uncertainty as to what Congress will do, and what the Department of Agriculture would do if Congress increases the Mainland quota, it appears to us that growers should go slow in plowing up good stubble this fall and winter. In other words, let's wait a while to see what happens.

Mill Allotments

On page 387 of this issue you will find the marketing allotments for the Louisiana mills this year (1954) that were released by the Sugar Branch on August 13th.

1954 mill allotments for the mainland cane area were established by giving 40 per cent weight to 1953 crop production, 20 per cent weight to average annual marketings for the period 1948-53, and 40 per cent weight to the 1953 crop production plus those stocks of sugar on hand January 1, 1954 which were in excess of the average of the January 1, 1948-53 stocks. There was another proviso that allotted 125 tons to Louisiana State University and provided further that no processor would have an allotment smaller than the sum of his January 1, 1954 inventory of sugar plus 25 per cent of the sugar produced by him from 1953 crop cane.

Cost Expert

The good looking young man whose picture you see on this page is Dr. Joe R. Campbell who has taken over the sugarcane cost studies that were formerly conducted by Dr. J. Norman Efferson. Dr. Efferson, as you know, is now the Director of the Louisiana State Experiment Station. We asked for some information about Dr. Campbell and received the following report.

Dr. Joe R. Campbell, associate agricultural economist of the Louisiana State University Agricultural Experiment Station, has taken over

DR. JOE R. CAMPBELL

the Louisiana sugar cane cost studies that have been conducted for the past 16 years by Dr. J. Norman Efferson, who became director of the Experiment Station on July 1.

Dr. Campbell, who is a native of Texas, was graduated from Texas A & M in 1938, completed work on his Master's degree in agricultural economics under Dr. Efferson at LSU in 1940, and was an instructor in farm management at LSU from June 1940 until June 1941. He studied toward his Ph.D. at Cornell University from 1941 until 1943, served in the Army from 1943 to 1946, then returned to Cornell, and in 1948 completed work on his doctorate. Dr. Campbell served as professor of farm management and research economist at Texas A & M from 1948 until June of this year, when he joined the LSU staff as associate professor of farm manage-

(Continued on page 392)

SUGAR MARKET STATISTICS THROUGH AUGUST 25, 1954

	Today	1 Month Ago	1 Year Ago
QUOTA RAWS DELIVERED NEW YORK	6.08	6.15	6.42
QUOTA RAWS DELIVERED NEW ORLEANS	6.05	6.12	6.40
WORLD SPOT RAWS (In Cuba)	3.20	3.15	3.50

SUGAR FUTURES No. 6
(Closing Bid Prices)

	Nov.	Mch.	May	July
Today	5.58	5.42	5.46	5.57
1 Month Ago	5.65	5.42	5.45	5.56
1 Year Ago	5.88	5.53	5.59	5.69

* offered ** nominal

OFFSHORE RECEIPTS AT NEW ORLEANS

	This Month	Total Since Jan. 1st.
American	†471,579 bags	2,242,267 bags
Godchaux	171,842 bags	1,240,343 bags
Colonial	108,217 bags	1,143,679 bags
Henderson	53,107 bags	458,464 bags
Southdown	None	75,862 bags
South Coast	33,229 bags	450,863 bags
Sterling	None	None
Supreme	93,291 bags	601,137 bags
Totals	931,265 bags	6,212,615 bags

† Includes 218,890 bags (approximately 100 lbs.) from Hawaii.

UP FRONT

(Continued from page 391)

ment and associate agricultural economist of the Experiment Station. He is married and has three boys.

The sugar cane cost studies, which are in three categories—raw sugar mills, large farms, and small family-type farms—were begun by Dr. Efferson in 1938 (for the 1937 crop year) and have been conducted continuously ever since. Information developed in the studies has been widely used by the Louisiana sugar industry.

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VARIETY CENSUS

(Continued from page 389)

generally harvested mechanically. In most areas of the sugar district it lodges too badly to permit harvesting by machine.

Figure 1 illustrates graphically the change in varietal positions in Louisiana during the period 1941 to 1954, inclusive. Co. 290 with nearly 40 percent, and C. P. 29/320 with over 20 percent of the State acreage in 1941, have dropped to 3.77 and 1.72 percent, respectively, at the present time.

C. P. 34/120 increased from less than one percent to approximately 25 percent and then decreased to 3.30 percent of the State acreage in a period of 13 years.

The acreage devoted to C. P. 29/-116 has remained nearly constant during the entire period. This has been due partly to its stable yielding ability [3] and partly to the fact that most of the acreage was confined to the western area where all varieties mature earlier and the relatively low sucrose qualities of C. P. 29/116 are not as great a disadvantage as in the eastern or northern areas. As more adaptable varieties are developed it is anticipated that C. P. 29/116 will be gradually replaced in that area.

The area occupied by C. P. 36/-105, which was released in 1945, increased rapidly until 1951 when over 38 percent of the State acreage was planted to that variety. It has gradually declined in acreage during the last two years, having been replaced to some extent by C. P. 44/101. It is believed that the latter variety will continue to increase in popularity because of its desirable agronomic qualities.

[1] The author is indebted to the following Agents who supplied the information on varietal plantings in the various parishes: Claude Songy, E. J. Lousteau, K. J. Ducote, W. E. Williams, Edward Burleigh, S. J. Bowles, C. J. Arceneaux, A. B. Curet, W. L. Roark, A. J. Melancon, Jr., Joseph Lamendola, V. O. Calandro, Dalton Comeaux, Stanley Angelle, P. J. de Gravelles, Richard Sonnier, Murphy Veillon and H. A. Webb.

[2] Hebert, Leo P., and R. J. Matherne. Results of sugarcane variety tests in Louisiana during 1952 Sugar Bull. 31(22): 354-378. 1953.

[3] Hebert, Leo P., and R. J. Matherne. An analysis of results of field tests of important sugarcane varieties during recent years. The Sugar Journal V 15 (11):24-27. 1953.

[4] Abbott, E. V. The occurence of a hitherto unrecognized growth-retarding disease of sugarcane in Louisiana. The Sugar Bull. (31):116-120, 1953.

[5] Unpublished data supplied by entomologists of the Louisiana Agricultural Experiment Station, and Entomology Research Branch, United States Department of Agriculture.

—o—

FARM ALLOTMENTS

(Continued from page 387)

(4) *Farm Bases.* A base shall be established for each farm on which there was acreage in any of the crop years 1949 through 1953 (herein referred to as "base period") by adding (i) 50 percent of the largest acreage on the farm in any one of the crop years within the base period, and (ii) 12.5 percent of the total acreage on the farm for the other four years within the base period.

(5) *Delegation.* Farm bases and farm proportionate shares shall be established by the county Agricultural Stabilization and Conservation Committee, in accordance with this determination and instructions issued by the Deputy Admnistrator for Production Adjustment, Commodity Stabilization Service.

(6) *Appeals.* A producer of sugarcane who believes that the proportionate share established for his farm pursuant to this determination is inequitable may file an appeal in writing at the local county office not later than July 1, 1955. The county committee shall make such adjustments as are necessary due to the use of any incorrect data in determining the proportionate share. In other cases, the county committee shall, after review of all of the facts, forward the case, together with its recommendation to the State Agricultural Stabilization and

Conservation Committee. The State Committee shall consider the appeal and the county committee's recommendation in light of the interest of the appellant as related to the interest of all other producers of sugarcane in the State and shall return the case to the county committee, indicating the appropriate disposition. Upon receipt thereof, the county committee shall notify the producer in writing as soon as possible regarding the decision on his appeal. If the producer is dissatisfied with the decision, he may appeal in writing before September 1, 1955, to the Director of the Sugar Division, Commodity Stablization Service, U. S. Department of Agriculture, Washington 25, D. C., whose decision shall be final.

(b) *Share tenant and share cropper protection.* In addition to compliance with the proportionate share for the farm in accordance with this determination, eligibility for payment of any producer of sugarcane shall be subject to the following conditions:

(1) That the number of share tenants or share croppers engaged in the production of sugarcane of the 1955 crop on the farm shall not be reduced below the number so engaged with respect to the previous crop, unless such reduction is approved by the State Committee of the Commodity Stabilization Service; and

(2) That such producer shall not have entered into any leasing or cropping agreement for the purpose of diverting to himself or any other producer any payments to which share tenants or share croppers would be entitled if their leasing or cropping agreements for the previous crop were in effect.

———o———

IN WASHINGTON

(Continued from page 385)

ther refined, to the direct-consumption portion of the quota. That position was maintained until 1953.

In 1953, however, the Sugar Division decided that because the definition of direct-consumption sugar limits such sugar to crystalline sugar, liquid sugar from a domestic off-shore area would be assigned to the over-all quota. This interpretation reversed the earlier one and the industry sent representatives to Washington to request Sugar Division officials to re-consider their decision. Following a meeting with interested persons at which the industry was requested to submit its views, the Sugar Division informed the industry that the recent (1953) interpretation should not be considered conclusive or an adequate

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basis for action pending a complete review of the question.

According to Mr. Myers' invitation, the proposed September 15th meeting is for the purpose of making a "complete" review of the liquid sugar situation and related problems. It is Mr. Myers' thought that the meeting would be limited more or less to the broad outlines of the problems and their impact on the industry. He said it may be desirable at that time to organize a task force for a more detailed study of the problems, in which case it would be the responsibility of the task group to analyze the problems and to recommend the most desirable solution of them, both as regards administrative procedure and as a guide for legislative action.

———o———

IN THE FIELD

(Continued from page 384)

2, 4-D on a band 36″ wide on top of the row.

3. Approximately three weeks later, or after a rain, apply 4 to 7 lbs. of 90% sodium TCA on the top of the row on 24″ drill area, depending on the number of seedlings escaping the 2, 4-D treatment.

4. Cultivate the middles and sides of the rows as needed, and rogue carefully all Johnson grass plants that escaped the chemicals.

The recommendation for the spring treatment of Johnson grass can be gotten from the February 15, 1954 issue of the Sugar Bulletin.

The things mentioned in this article will certainly not guarantee the planting, but will certainly assist the general condition of the crop comes lay-by time 1955.

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THE SUGAR BULLETIN

ol. 32—No. 24 SEPTEMBER 15, 1954

fficial Bulletin of the American Sugar Cane League of the U. S. A.

Announcing The

THIRTY-SECOND ANNUAL MEETING

of the

AMERICAN SUGAR CANE LEAGUE

of the

U. S. A., Inc.

THURSDAY, SEPTEMBER 30th, 1954

THE BEAUREGARD ROOM, ST. CHARLES HOTEL
New Orleans, La.
Meeting Convenes at 2:00 P. M.

At this meeting there will be an election of Officers and Members of the Executive Committee to serve during the ensuing year.

All Members of the League Will Please Consider This as an Official Notice To Attend

Published on the First and Fifteenth of each month in the interests of the Domestic Sugar Cane Industry

THE
SUGAR BULLETIN

414 Whitney Bldg., New Orleans 12

Gilbert J. Durbin, Editor — Andrew W. Dykers, Managing Editor

Lloyd L. Lauden, Agronomist and Field Representative

The Official Organ of the American Sugar Cane League of the U. S. A.

Entered as second-class matter April 13, 1925, at the post office in New Orleans, La., under Act of March 3, 1879.

Issued on the 1st and 15th of each month. Subscription: Members 50 cents a year. Non-Members $3.00 a year.

Washington Office, 510 Union Trust Bldg., Washington, D. C.
Josiah Ferris, Manager

Advertising Agent:
Hauser Printing Company, Inc.
720 Poydras St. — Alan Greenfield, Manager — New Orleans, La.

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UP FRONT WITH THE LEAGUE

by

A. W. DYKERS

The Other Foot

Since the Cubans are always the loudest objectors to any move that is intended to give the mainland cane and beet farmers the right to sell a little more sugar in the American market, we believe that the following news item appearing in the September 2nd issue of the *Weekly Statistical Sugar Trade Journal* of Willett & Gray, Inc. should be both interesting and enlightening.

"Efforts to get a written commitment from Japan for the continued purchase of Cuban sugar apparently failed. Trade agreement negotiations between the two countries were blocked by Cuban tariff concessions on Japanese textiles, strongly advocated by the sugar interests and adamantly opposed by Cuban textile interests and organized labor." Willett & Gray got the above quote from the August 30th *Foreign Commerce Weekly.*

Apparently Cuban organized labor and the Cuban textile interests stand for the encouragement of home industry against foreign competition. We do, too.

Festival Time

It's almost that time again folks. On Friday, September 24th the New Iberia Sugar Cane Festival and Fair Association will begin the activities in New Iberia, La. that have become a part of Louisiana Sugar Industry. The Sugar Cane Festival and Fair starts on Friday and will zip through Friday, Saturday and Sunday with an entertainment and educational program that you won't want to miss. P. L. Billeaud of Broussard, La., will reign as King Sucrose XIII.

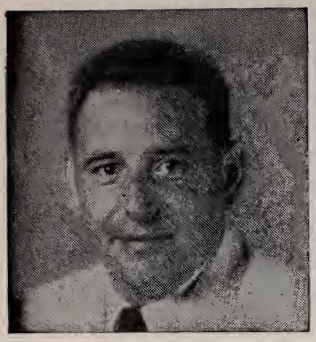
Make a date with your best girl and take her (and all the kids, too) to the Fair. You'll have a swell time. We guarantee it. Incidentally, be sure to visit the booth of the American Sugar Cane League where our field man Lloyd L. Lauden will be holding forth. He'll be glad to tell you all he knows (which is plenty) about the new cane varieties, the stunting disease, and the many other field activities of the American Sugar Cane League.

Sugar Price

On March 16th of this year, for some reason that has never been satisfactorily explained, the Sugar Branch increased the 1954 sugar consumption estimate 200,000 tons, bringing the total estimate for 1954 to 8,200,000 tons, raw value. At the time of the increase the distribution of sugar in the United States was running about 100,000 tons under the 1953 distribution. The price of raw sugar in New York on March 16th was 6.25. The price of raw sugar in New York today is 6.05. Last year at this time the price of raw sugar in New York was 6.40.

The weakness of the market throughout the summer season, when prices are usually at their peak, is a very alarming development. The Louisiana pricing period begins about the middle of October

(Continued on page 410)



IN THE FIELD WITH LLOYD LAUDEN

by Lloyd L. Lauden

The Distribution Of N. Co. 310

The new variety of cane, N. Co. 310, now being released, is certainly meeting with popular demand. The League office has been deluged by an inflow of applications and payments for this cane. More than 2,000 tons of N. Co. 310 have been applied for by cane farmers in the Louisiana sugar belt. Many farmers have had an opportunity to observe this cane on one of the Secondary Increase Stations before making application. Many others, however, have merely accepted the data presented by the scientists that has been published in *The Sugar Bulletin.*

The Annual Parish Field Days, held throughout the sugar belt, and directed by the County Agents, have done much to influence the distribution of this cane. The scientists of the U. S. D. A. and L. S. U., and the writer have welcomed the opportunities that have been provided by these meetings to talk to farmers about N. Co. 310 on the farm tours. Mr. George Shannon, Farm Radio Service Director of WWL, has also talked about this cane several times on his morning farm programs.

Although there is an adequate supply of N. Co. 310 in the sugar belt to cover all the requests made, a very heavy local demand is causing a shortage in certain areas. In order to alleviate this condition, the League, with the cooperation of several factories, is hauling cane from one area to another. In general this is being done to assist the smaller farmers who have ordered only a few tons of cane.

We owe a special vote of thanks to the owners and management of Southdown Sugars at Houma; the Smithfield Factory at Chamberlin; the Cora Texas Factory at White Castle; the Oaklawn Factory at Franklin; the Iberia Cooperative at New Iberia; and the St. John Factory at St. Martinville, for the time and effort they have and are giving to lessen the burden of others.

It is not to be overlooked, also, that all Secondary Station owners and managers always give unselfishly of their time and money in order that a new cane may be commercially released. These stations handle many canes that never are good enough to be grown profitably. Many times the operators of these Increase Stations will do things to a new, promising variety at an additional cost over and above their normal operations in order to more rapidly increase the variety. Very often the distribution of a new variety takes place at the same time other planting is being done and this interferes with regular planting operations.

Many have asked why a cane is usually delivered late in September. The reason is simply to get the greatest amount of seed from each acre. The cane this year will be distributed during the last several days of this month. Each applicant will be advised by mail the exact date he is to pick up his cane.

(Continued on page 410)

IN WASHINGTON WITH JOE FERRIS

by Josiah Ferris

A New Word

Dr. Henry Hass, President and Scientific Director of Sugar Research Foundation Inc., recently coined the term "sucrochemistry" to designate the branch of organic chemistry in which sucrose and its by-products constitute the starting materials. To those familiar with petrochemistry and petrochemicals, the meaning is obvious.

In a paper entitled "Economics of Sucrose" which he delivered at the National meeting of the American Chemical Society in New York City, Dr. Hass pointed out that for many years the prediction has been made that as petroleum and natural gas become scarcer and coal more expensive, vegetation will inevitably become more important as a source for organic compounds. Dr. Hass said the exhaustion of the petroleum deposits seems to recede like the rainbow as we advance in time, but there is now much evidence that the age of sucroschemistry is not waiting for that unhappy event.

Dr. Hass mentioned many new discoveries which are representative of what can be done with sucrose as a starting point. He said some of those discoveries are being utilized commercially, such as pulp, paper and furfurol from bagasse, wax from filter muds, animal feeds, aconitic acid and glycerol from cane juice and molasses.

According to Dr. Hass, it is high time that the fascinating industrial chemistry of sucrose is brought from the realm of imagination and put to work in chemical plants.

Two Sugar Prices

Lower priced sugar for industrial chemical use may be discussed at Larry Myers' September 15, conference on liquid sugar. The Atlas Powder Company is proposing to build a 10 million dollar plant for making glycerol from either corn starch or high test molasses. The plant would use approximately 30 million pounds of sugar in the form of high test molasses per year, and the new use should grow rapidly inasmuch as glycerol (glycerine) consumption is increasing faster than the population. Glycerol now is mainly a byproduct from soap manufacture which is rapidly decreasing as synthetic detergents take over more of the market once enjoyed by soap. It is reliably understood that Atlas was ready to utilize corn starch as a raw material when the possibility of using high test molasses was pointed out to it.

Unfortunately Atlas ran into trouble in its proposed use of high test molasses because the molasses will have to be purified to a point that would bring it under the definition of liquid sugar in the Sugar Act. Unless the task force which will be appointed at Myers' conference comes up with an acceptable solution of the problem, Atlas is expected to raise the question of whether or not the exemption in the Sugar Act in favor of sugar used for live stock feed and alcohol should be extended to use in the manufacture of chemicals. Atlas claims it cannot use sucrose at the

(Continued on page 410)

FAIR PRICE DETERMINATION FOR THE 1954-55 SEASON

TITLE 7—AGRICULTURE

Chapter VIII—Commodity Stabilization Service (Sugar) Department of Agriculture

Subchapter I—Determination of Prices

(Sugar Determination 874.7)

PART 874—SUGARCANE: LOUISIANA 1954 CROP

Pursuant to the provisions of section 301 (c) (2) of the Sugar Act of 1948, as amended, (herein referred to as "Act"), after investigation, and due consideration of the evidence presented at the public hearing held in Thibodaux, Louisiana, on July 28, 1954, the following determination is hereby issued:

§ 874.7 *Fair and reasonable prices for the 1954 crop of Louisiana sugarcane.* A producer of sugarcane in Louisiana who processes sugarcane purchased from other producers (hereinafter referred to as "processor") shall be deemed to have complied with the provisions of section 301 (c) (2) of the Act with respect to the 1954 crop, if he has paid or has contracted to pay for such sugarcane in accordance with the following requirements.

(a) *Definitions:* For the purpose of this determination, the term:

(1) "Price of raw sugar" means the price of 96° raw sugar quoted by the Louisiana Sugar Exchange, Inc.; except that if the Director of the Sugar Division determines that such price does not reflect the true market value of sugar, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination.

(2) "Price of blackstrap molasses" means the price per gallon of blackstrap molasses quoted by the Louisiana Sugar Exchange, Inc.; except that if the Director of the Sugar Division determines that such price does not reflect the true market value of blackstrap molasses, because of inadequate volume, failure to report sales in accordance with the rules of such Exchange or other factors, he may designate the price to be effective under this determination.

(3) "Standard sugarcane" means sugarcane, free of trash, containing 12 percent sucrose in the normal juice with a purity of at least 76.50 but not more than 76.99.

(4) "Net sugarcane" means the quantity of sugarcane obtained by deducting the weight of trash from the combined weight of sugarcane and trash delivered by a producer.

(5) "Salvage sugarcane" means sugarcane containing either less than 9.5 percent sucrose in the normal juice or less than 68 purity in the normal juice.

(6) "Trash" means green or dried leaves, loose sugarcane tops, attached sugarcane tops at or above the green leaf roll, dirt and all other extraneous material which is representative of the quantity of sugarcane from which the sample for trash determination is taken.

(b) *Basic price:*

(1) The basic price for standard sugarcane shall be not less than $1.06 per ton for each one-cent per pound of the average price of raw sugar determined in accordance with either of the following as agreed upon:

(i) The simple average of the daily prices of raw sugar for the week in which the sugarcane is delivered; or,

(ii) The simple average of the weekly prices of raw sugar for the period October 8, 1954 through February 24, 1955; *Provided,* That the average price of raw sugar as determined under subdivisions (i) or (ii) of this subparagraph may

be reduced by not more than the following:

(*a*) 0.065 cent for mills located north of Bayou Goula between the Atchafalaya and Mississippi Rivers and southeast of New Iberia west of the Atchafalaya River; or

(*b*) 0.10 cent for mills located north and west of New Iberia west of the Atchafalaya River.

(2) The basic price for salvage sugarcane shall be as agreed upon between the processor and the producer.

(c) *Conversion of net sugarcane to standard sugarcane.* Net sugarcane (except for salvage sugarcane) shall be converted to standard sugarcane as follows:

(1) By multiplying the quantity of net sugarcane by the applicable quality factor in accordance with the following table:

Percent sucrose in normal juice of net sugarcane	Standard sugarcane quality factor [1]
9.5	.60
10.0	.70
10.5	.80
11.0	.90
11.5	.95
12.0	1.00
12.5	1.05
13.0	1.10
13.5	1.15
14.0	1.20
14.5	1.25

[1] The quality factor for sugarcane of intermediate percentages of sucrose in normal juice shall be interpolated and for sugarcane having more than 14.5 percent sucrose in the normal juice shall be computed in proportion to the immediately preceding interval.

and,

(2) By multiplying the quantity determined pursuant to subparagraph (1) of this paragraph by the applicable purity factor in the accompanying table:

Purity of Normal Juice		STANDARD SUGARCANE PURITY FACTOR[1] Percent Sucrose in Normal Juice															
		At least 9.50	9.70	9.90	10.10	10.30	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	14.50	15.00	15.50
At Least	But not more than	But not more than 9.69	9.8	10.09	10.29	10.49	10.99	11.49	11.99	12.49	12.99	13.49	13.99	14.49	14.99	15.49	15.99
68.00	68.24	1.000	.989	.978	.967	.956	.945	.936	.929	.922	.915	.908	.901	.894	.887	.880	.873
68.25	68.49	1.005	.993	.982	.971	.960	.949	.941	.934	.927	.920	.913	.906	.899	.892	.885	.878
68.50	68.99	1.010	.998	.987	.976	.965	.954	.946	.939	.932	.925	.918	.911	.905	.899	.893	.887
69.00	69.49	1.015	1.003	.992	.981	.970	.959	.950	.943	.936	.929	.922	.915	.909	.903	.897	.891
69.50	69.99	1.021	1.009	.997	.986	.975	.964	.955	.948	.941	.934	.927	.920	.914	.908	.902	.896
70.00	70.49	1.025	1.013	1.001	.990	.979	.968	.960	.953	.945	.938	.931	.924	.918	.912	.906	.900
70.50	70.99	1.030	1.018	1.006	.995	.984	.973	.965	.958	.950	.943	.936	.929	.923	.917	.911	.905
71.00	71.49	1.035	1.023	1.011	.999	.988	.977	.969	.962	.954	.947	.940	.933	.927	.921	.915	.909
71.50	71.99	1.040	1.028	1.016	1.004	.993	.982	.974	.966	.959	.951	.945	.938	.932	.926	.920	.914
72.00	72.49	1.045	1.033	1.021	1.009	.998	.987	.978	.970	.963	.955	.949	.942	.936	.930	.924	.918
72.50	72.99	1.050	1.038	1.026	1.014	1.003	.992	.983	.975	.967	.960	.954	.947	.940	.934	.928	.922
73.00	73.49	1.055	1.043	1.031	1.019	1.007	.996	.987	.979	.971	.964	.958	.951	.944	.938	.932	.926
73.50	73.99	1.060	1.048	1.036	1.024	1.012	1.000	.991	.984	.976	.968	.962	.955	.948	.942	.936	.930
74.00	74.49	1.065	1.052	1.040	1.028	1.016	1.004	.995	.988	.980	.972	.966	.959	.952	.946	.940	.934
74.50	74.99		1.057	1.044	1.032	1.020	1.008	1.000	.992	.984	.977	.970	.963	.956	.950	.944	.938
75.00	75.49		1.062	1.049	1.036	1.024	1.012	1.004	.996	.988	.981	.974	.967	.960	.954	.948	.942
75.50	75.99			1.054	1.041	1.028	1.016	1.008	1.000	.992	.985	.978	.971	.964	.958	.852	.946
76.00	76.49			1.059	1.046	1.033	1.020	1.011	1.004	.996	.988	.981	.974	.967	.961	.955	.949
76.50	76.99				1.051	1.038	1.025	1.015	1.008	1.000	.992	.985	.978	.971	.965	.959	.953
77.00	77.49				1.054	1.041	1.028	1.019	1.011	1.004	.996	.989	.981	.975	.969	.963	.957
77.50	77.99					1.045	1.032	1.023	1.015	1.008	1.000	.993	.985	.979	.973	.967	.961
78.00	78.49					1.049	1.035	1.027	1.019	1.011	1.003	.996	.989	.982	.976	.970	.964
78.50	78.99						1.039	1.031	1.023	1.015	1.007	1.000	.993	.986	.980	.974	.968
79.00	79.49						1.042	1.035	1.026	1.018	1.010	1.003	.996	.989	.983	.977	.971
79.50	79.99							1.039	1.030	1.022	1.014	1.007	1.000	.993	.987	.981	.975
80.00	80.49							1.043	1.033	1.025	1.017	1.010	1.003	.996	.990	.984	.978
80.50	80.99								1.037	1.029	1.021	1.014	1.007	1.000	.994	.988	.982
81.00	81.49								1.040	1.032	1.024	1.017	1.010	1.003	.997	.991	.985
81.50	81.99									1.036	1.028	1.021	1.014	1.006	1.000	.994	.988
82.00	82.49									1.039	1.032	1.024	1.017	1.009	1.003	.997	.991
82.50	82.99										1.035	1.027	1.020	1.013	1.007	1.000	.995
83.00	83.49										1.038	1.030	1.023	1.016	1.010	1.004	.998
83.50	83.99											1.033	1.027	1.019	1.013	1.007	1.000
84.00	84.49											1.036	1.030	1.022	1.016	1.010	1.004
84.50	84.99												1.033	1.025	1.019	1.013	1.007
85.00	85.49													1.028	1.022	1.016	1.010

[1] Factors applicable to higher sucrose and purity of the normal juice than shown in this table shall be determined by the same method of calculation used to compute the factors specified and shall be furnished by the Louisiana State ASC Office, Alexandria, Louisiana, upon request.

(d) *Molasses payment.* For each ton of net sugarcane (except salvage sugarcane) there shall be paid an amount equal to the product of 7.1 and one-half of the average price per gallon of blackstrap molasses in excess of 6 cents. The average price of blackstrap molasses shall be either the simple average of the daily prices for the week in which the sugarcane is delivered, or the simple average of the weekly prices of blackstrap molasses for the period October 8, 1954 through February 24, 1955, as agreed upon between the processor and the producer.

(e) *General*

(1) The sucrose and purity of the normal juice shall be determined by acceptable methods of analysis on sugarcane as delivered, such methods to be subject to the approval of the Louisiana State Agricultural Stabilization and Conservation Office (hereinafter referred to as "State Office".)

(2) Because of decreased boiling house efficiency deductions may be made from the payment for frozen sugarcane accepted by the processor provided such deductions are at rates not in excess of 1.5 percent of the payment, computed without regard to the molasses payment, for each 0.1 cc. of acidity above 2.50 cc. of N/10 alkali per 10 cc. of juice but not in excess of 4.75 cc. (intervening fractions are to be computed to the nearest multiple of 0.05 cc.). Frozen sugarcane testing in excess of 4.75 cc. of acidity shall be considered as having no value. Sugarcane shall not be considered as frozen, even after being subjected to freezing temperature, unless and until there is evidence of damage having taken place because of the freeze, such evidence to be certified by the State Office.

(3) In the event a general freeze causes abnormally low recoveries of raw sugar by a processor in relation to the sucrose and purity tests of sugarcane, payment for such sugarcane may be made as mutually agreed upon between the producer and the processor, subject to approval by the State Office: *Provided,* That the payment for each ton of net sugarcane shall be not less than an amount equal to the total returns from raw sugar and molasses actually recovered from such sugarcane, determined on the basis of the simple average of the weekly prices of raw sugar and blackstrap molasses for the period October 8, 1954 through February 24, 1955, less an amount not to exceed $3.00 per gross ton of sugarcane for processing and less actual costs of hoisting, field weighing and transporting such sugarcane.

(4) A processor who paid the costs for hoisting and weighing sugarcane of the 1953 crop shall also pay such costs with respect to the 1954 crop: *Provided,* That nothing in this subparagraph shall be construed as prohibiting negotiations with respect to such costs, any change to be approved by the State Office.

(5) A processor who made allowances to producers for transporting sugarcane from the customary delivery points to the mill for the 1953 crop, shall also make such allowances for the 1954 crop: *Provided,* That nothing in this subparagraph shall be construed as requiring the processor to make allowances to producers in excess of the actual costs or rates charged by a commercial carrier for the customary method of transportation: *Provided further,* That where the only available practicable means of transportation is by railroad and the distance to the nearest mill is in excess of 50 miles or where, because of unusual circumstances, the cost of transporting sugarcane is in excess of customary allowances; such costs may be shared by the processor and the producer by agreement, subject to the approval of the State Office.

(6) If a processor and the producers delivering sugarcane to such processor mutually agree upon a plan for improving harvesting and

delivery operations, there may be deducted from the price per ton of sugarcane an amount equal to one-half of the cost of such plan. Such deduction may not be made until the plan has been approved by the State Office.

(7) The processor shall not reduce the returns to the producer below those determined herein through any subterfuge or device whatsoever.

(8) The Deputy Administrator for Production Adjustment of the Commodity Stabilization Service will issue such instructions to the State Office as may be necessary to effectuate the purpose of this determination.

STATEMENT OF BASES AND CONSIDERATIONS

(a) *General*

The foregoing determination provides fair and reasonable prices to be paid by a processor for sugarcane of the 1954 crop purchased from producers. It prescribes the minimum requirements with respect to prices which must be met as one of the conditions for payment under the Act.

(b) *Requirements of the Act*

In determining fair and reasonable prices, the Act requires that public hearings be held and investigations be made. Accordingly, a public hearing was held in Thibodaux, Louisiana, on July 28, 1954, at which time interested persons presented testimony with respect to fair and reasonable prices for the 1954 crop of sugarcane. In addition, investigations have been made of conditions relating to the sugar industry in Louisiana.

(c) *1954 price determination*

The 1954 price determination continues unchanged the provisions of the 1953 crop determination.

At the public hearing the Louisiana Grower - Processor Committee recommended that the provisions of the 1953 crop price determination be continued for the 1954 crop. The Committee representative stated that in reaching this decision all aspects of the determination had been considered. He stated further that a special committee had been appointed to give further study to questions of sugarcane purity, trash, better methods of harvesting and delivery of higher quality cane to mills. Pending such further study the Committee agreed that no change should be made in the price determination. A processor testified with respect to a recent increase in freight rates on sugarcane and raw sugar, recommending that the Department give consideration to the allowances for sugar freight differentials for the 1954 crop. The request was supported by two other processors in briefs submitted to the Department following the hearing.

In making this determination consideration has been given to recommendations made at the public hearing, to information obtained as a result of investigations and to returns, costs, and profits data of the Louisiana sugar industry obtained by survey during prior years and restated in terms of prospective conditions for the 1954 crop. On the basis of analysis and examination of all pertinent factors it appears that an equitable sharing relationship between producers and processors will exist under anticipated conditions for the 1954 crop.

No change is made in the molasses settlement provision inasmuch as the average production of molasses per ton of cane during the last five-year period is the same as the average production for the previous period.

Prior fair price determinations have specified deductions for freight rate differentials in the calculation of settlements with producers. It is understood that the matter of increases in freight rates on sugar was considered by the Grower-Processor Committee but the Committee, except for one member who abstained from voting, preferred no change be made in the determina-

(Continued on page 410)

2108 Third Street, New Orleans
12 units, some one room units for $6 per week, some 2-room units $8.50 per week

Double house St. Andrew St., New Orleans
Rent $20 per side

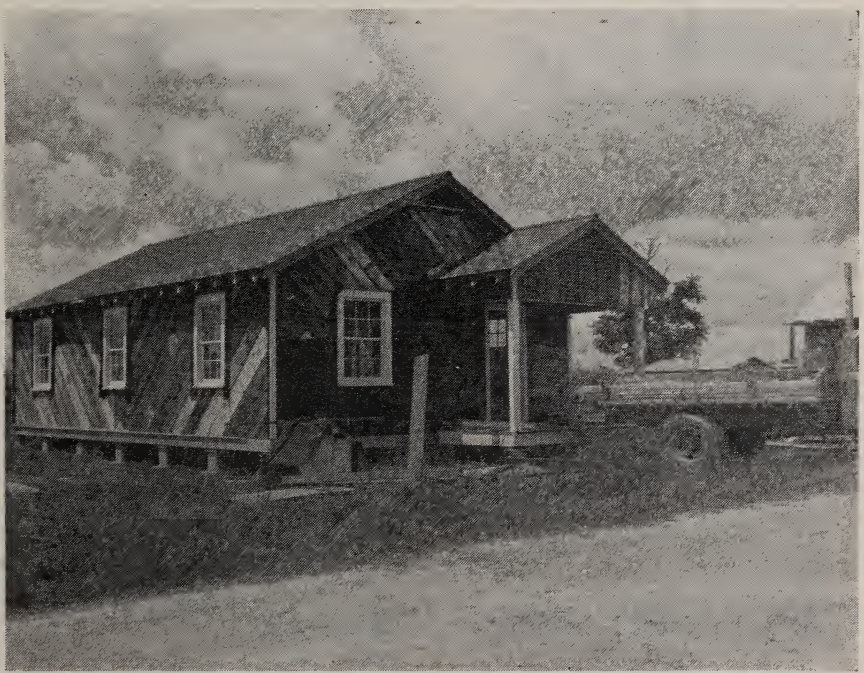
Row of field workers' houses
Valentine Sugars, Lockport, La.
Note flower garden in foreground

Field worker's house
Whitmell Plantation, Dugas & LeBlanc, Paincourtville, La.
Note asbestos sheeting; neat construction

Row of field workers' houses
Lula Factory, Belle Rose, La.
Note well kept wood siding and fence

2100 Philip St., New Orleans
Double, $7 per week per section

Inside kitchen field worker's house
Ella Plantation, Lula Factory, Belle Rose, La.
Note neat sink cabinet and water faucet.



Field worker's house under construction
Valentine Sugars, Lockport, La.
Note storm walls and tar paper

DETERMINATION

(Continued from page 405)

tion to reflect the higher rates since the matter was being contested in the Courts. Accordingly, no action has been taken in this determination to reflect rate changes in the freight differentials.

On the basis of analysis of all pertinent factors the provisions of this determination are deemed to be fair and reasonable.

Accordingly, I hereby find and conclude that the foregoing price determination is fair and reasonable and will effectuate the price provisions of the Act. (Sec. 403, 61 Stat. 932; 7 U.S.C. Sup. 1153. Interprets or applies Sec. 301, 61 Stat. 929; 7 U.S.C. Sup. 1131).

Issued this 9th day of Sept. 1954.

/s/ True D. Moise
Acting Secretary of
Agriculture

IN WASHINGTON

(Continued from page 401)

current United States market price.

International Sugar Council Meets

Tom Allen of USDA and Paul Callanan of the State Department journeyed to London for the September 8, meeting of the International Sugar Council. The Council met to consider, among other important matters, operating details, reporting procedures and statistical requirements.

Stipulations Signed

Stipulations agreeing to procedure for the 1955 marketing allotments have been signed by all processors in the mainland cane area. A preliminary allotment of 80% of each individual producer's 1954 allotment will be issued before the harvest begins. A formal hearing will be held in New Orleans the latter part of January or early in February 1955.

IN THE FIELD

(Continued from page 400)

It is now known that N. Co. 310 cannot be planted near Co. 290 because of its susceptibility to mosaic. A sizeable acreage in the Western area was discarded because of this disease. N. Co. 310 should be planted at least one mile away from Co. 290 and the greater the distance the better.

UP FRONT

(Continued from page 399)

and with the price of sugar already 18 points less than last season's average price, the outlook, to say the least, is very discouraging.

Mr. Hugh Junca, President of the Louisiana Sugar Producers' Club (Western Division) has written the following letter to Secretary of Agriculture Benson relative to the price situation:

My dear Mr. Secretary:

The price of sugar is much too low. We appeal to you to use the authority and mandate given you by the Sugar Act to bolster the sagging sugar market.

The Department of Agriculture has never hesitated to increase the consumption estimate when it considered the estimate too low. You should not hesitate to reduce the current consumption estimate which is too large.

The income to 7500 Louisiana sugar cane growers and 40,000 field workers will be adversely affected unless you act promptly.

With west wishes, I am

Signed. Hugh Junca
President.

Once Again?

"In 1950 our production of beet sugar was over 2,000,000 tons compared with a marketing quota for that area of 1,800,000 tons. In 1951 our price actions brought beet sugar production last year below 1,600,000 tons".

The above statement was made by Mr. Lawrence Myers, Head of the Sugar Branch, at a meeting of the International Sugar Council

held in London on March 4th, 1952. He was explaining to the members of the Council how he had reduced the production of sugar in the United States simply by depressing the price to a point where raising sugar beets was no longer attractive. The "price action" he referred to reduced the price of sugar from a high of 6.80 in June to a low of 5.70 in December. The 1951-52 Louisiana Season's Average Price of raw sugar was 5.8223.

The production of domestic beet sugar, and also the production of domestic cane sugar, has again reached the point where more sugar is being produced than the 1,800,000 ton beet quota and the 500,000 tons cane quota allowed under the Sugar Act.

In view of Mr. Myers' "historical background", we wonder if we should be very surprised to see that the price of sugar in New York today is exactly the same as it was in 1951 when Mr. Myers was taking those "price actions" that brought beet sugar production in 1951 "below 1,600,000 tons." *L'histoire se repetera t'elle?*

LeBourgeois to Colonial

The Colonial Sugar Company has announced that Louis P. LeBourgeois became a Vice-President of that big sugar enterprise, which operates sugar properties in Cuba and the Colonial Sugar Refinery at Gramercy, La., effective September 1, 1954.

Mr. LeBourgeois needs no introduction to the readers of *The Sugar Bulletin.* He has been a part of the Louisiana Sugar Industry for many years and we are happy to note that the announcement of his affiliation with the Colonial interests states that he will be active principally in the New Orleans office.

We congratulate the Colonial Sugar Company on their new Vice-President and tender Mr. LeBourgeois our very best wishes for success in his new endeavor.

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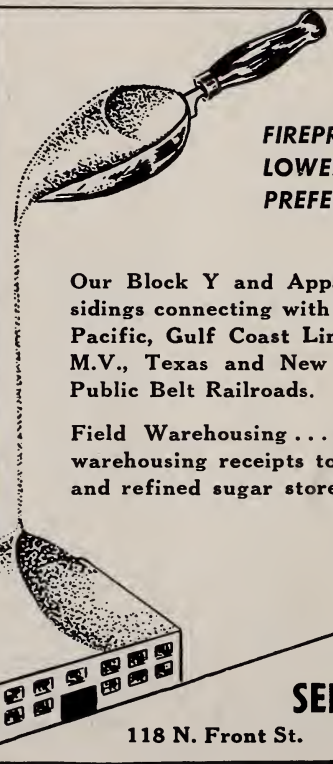

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